Report of the Committee on the Building Code® (BLD-AC) Technical Correlating Committee

Jerry Wooldridge, Chair
Reedy Creek Improvement District, FL [E]

Wayne G. Carson, Secretary
Carson Associates, Incorporated, VA [SE]

George Capko, Jr., FM Global, MA [I] Rep. Building Code Development Committee
Howard Hopper, Underwriters Laboratories Incorporated, CA [RT]

Roland J. Huggins, American Fire Sprinkler Association, Incorporated, TX [IM]

Joseph M. Jardin, New York City Fire Department, NY [C] Rep. NFPA Fire Service Section


Ronald G. Nickson, National Multi Housing Council, DC [U] Rep. NFPA Fire Service Section

Jake Pauls, Jake Pauls Consulting Services in Building Use & Safety, MD [C] Rep. American Public Health Association
Jim Schwager, City of Portland, OR [E]

Alternates

John C. Harrington, FM Global, MA [I] (Alt. to George Capko)
Christopher P. Jones, Christopher P. Jones & Associates, NC [E] (Alt. to Gerald H. Jones)

Kevin J. Kelly, National Fire Sprinkler Association, NY [M] (Alt. to Russell P. Fleming)
Mark Kluver, Portland Cement Association, CA [M] (Alt. to Joseph J. Messersmith)

Russell B. Leavitt, TVA Fire and Life Safety, Incorporated, AZ [IM] (Alt. to Roland J. Huggins)

Thomas M. Moses, Reedy Creek Improvement District, FL [E] (Alt. to Jerry Wooldridge)

Dennis L. Pitts, American Forest & Paper Association, TX [M] (Alt. to Sam W. Francis)

Joseph A. Simone, US Department of the Navy, DC [U] (Alt. to Raymond N. Hansen)

John Taecker, Underwriters Laboratories Incorporated, CA [RT] (Alt. to Howard Hopper)

Daniel M. Troxell, Washington, DC Fire Department, MD [C] (Alt. to Joseph M. Jardin)

Leon F. Vinci, Health Promotion Consultants, NE [C] (Alt. to Jake Pauls)

Robert J. Wills, American Iron and Steel Institute, AL [M] (Alt. to Harry W. (Hank) Martin)

Nonvoting


William E. Fitch, Omega Point Laboratories Incorporated, TX [RT] Rep. TC on Furnishings & Contents

Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE] Rep. TC on Assembly Occupancies & Membrane Structures

Wayne D. Holmes, HSB Professional Loss Control, CT [I] Rep. TC on Industrial, Storage, & Miscellaneous Occupancies

Philip R. Jose, Guilderland, NY [SE] Rep. TC on Board & Care Facilities


John A. Rickard, Foundation Communities, TX [E] Rep. TC on Building Systems


Peter J. Willse, GE Global Asset Protection Services, CT [I] Rep. TC on Structures and Construction

Staff Liaison: Robert E. Solomon

Committee Scope: This committee shall have primary responsibility for documents or portions of documents on the design and construction of every building or structure, including structural design methods and techniques, as well as the design of integrated building systems for health, safety, comfort, and convenience.

Report of the Committee on Assembly Occupancies and Membrane Structures (BLD-AXM)

Ralph Gerdes, Chair
Ralph Gerdes Consultants, LLC, IN [SE]

Ron Côté, Nonvoting Secretary
National Fire Protection Association, MA


Robert D. Fiedler, City of Lincoln, NE [E] William E. Fitch, Omega Point Laboratories Incorporated, TX [RT]

Wesley W. Hayes, Polk County Fire Services Division, FL [E] Rep. National Fire Sprinkler Association


John Lake, Marion County Fire Rescue, FL [E] Rep. NE Florida Fire Prevention Association


Jake Pauls, Jake Pauls Consulting Services in Building Use & Safety, MD [SE] Rep. NC Fire Protection Association

Steven W. Peavey, Altamonte Springs Fire Department, FL [E] Rep. Florida Fire Marshals & Inspectors Association


Paul L. Wertheimer, Crowd Management Strategies, IL [SE]
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Gene Boecker, Code Consultants, Incorporated, MO [U]  
(Alt. to Gregory R. Miller)
David Cook, Ralph Gerdes Consultants, LLC, IN [SE]  
(Alt. to Ralph Gerdes)
Jerrold S. Gorrell, City of Phoenix, AZ [U]  
(Alt. to Karl G. Ruling)
Mike Hayward, Little Tikes Commercial Play Systems Incorporated, MO [M]  
(Alt. to Keith C. Nagelski)
Eugene Leiternann, Theatre Projects Consultants, Incorporated, CT [SE]  
(Alt. to William Conner)
Vern T. Lewis, Church of Jesus Christ of Latter-day Saints, UT [U]  
(Alt. to Vern L. Martindale)
Steven J. Scandaliato, Scandaliato Design Group, Incorporated, CO [IM]  
(Alt. to Roland J. Huggins)
Stephen V. Skallo, Portland Cement Association, GA [M]  
(Alt. to Joseph J. Messersmith)
Mark V. Smith, Gainesville Fire Rescue Department, FL [E]  
(Alt. to John Lake)
Robert B. Treiber, National Fire Sprinkler Association, Incorporated, OH [M]  
(Alt. to Kevin J. Kelly)
Robert J. Wills, American Iron and Steel Institute, AL [M]  
(Alt. to Jonathan Humble)
Staff Liaison: Ron Coté

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the nonemergency and emergency movement of people in assembly occupancies, tents, and membrane structures.

Report of the Committee on Board and Care Facilities (BLD-BCF)

Philip R. Jose, Chair  
Guilderland, NY [SE]
Gregory E. Harrington, Nonvoting Secretary  
National Fire Protection Association, MA

Gregory J. Austin, Gentex Corporation, MI [M]  
Rep. National Electrical Manufacturers Association
Warren D. Bonisch, Schirmer Engineering Corporation, TX [I]
Harry L. Bradley, Maryland State Fire Marshals Office, MD [E]  
Rep. International Fire Marshals Association
Philip C. Favro, Philip C. Favro & Associates, CA [SE]
Laura A. Hoffman, Volunteer State Community College, TN [SE]
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
David Ray Kielty, The Charles Lea Center, SC [U]
Rep. American Network of Community Options & Resources
James K. Lathrop, Koffel Associates, Incorporated, CT [SE]
John E. Mahoney, Gage Babcock & Associates, Incorporated, VA [U]  
Rep. American Health Care Association
Paul E. Patty, Underwriters Laboratories Incorporated, IL [RT]
Francis G. Reuer, US Department of Health & Human Services, CO [E]
James W. Rice, US Department of Veterans Affairs, MI [U]

Alternates

Kerry M. Bell, Underwriters Laboratories Incorporated, IL [RT]  
(Alt. to Paul E. Patty)
Margaret R. Engwer, US Department of Veterans Affairs, PA [U]  
(Alt. to James W. Rice)
Oystein (Sam) F. Husso, National Fire Sprinkler Association, CA [M]  
(Alt. to Kenneth E. Isman)
Cindy Mahan, Friendship Community Care, Incorporated, AR [U]  
(Alt. to David Ray Kielty)
James F. Woodford, Tyco/SimplexGrinnell, MA [M]  
(Alt. to Gregory J. Austin)
Mayer D. Zimmermann, US Department of Health & Human Services, MD [E]  
(Alt. to Francis G. Reuer)

Nonvoting

(Member Emeritus)
Staff Liaison: Gregory E. Harrington

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in residential board and care facilities.

Report of the Committee on Building Construction (BLD-BLC)

Peter J. Willse, Chair  
GE Global Asset Protection Services, CT [I]
Rep. GE Global Asset Protection Services
Ron Coté, Nonvoting Secretary  
National Fire Protection Association, MA

Peter J. Barbadoro, FireSmart Building Technology Incorporated, MA [IM]
Jesse J. Beitel, Hughes Associates, Incorporated, MD [SE]
Robert M. Berhning, Underwriters Laboratories Incorporated, IL [RT]
David S. Collins, The Preview Group, Incorporated, OH [SE]  
Rep. American Institute of Architects
Richard J. Davis, FM Global, MA [I]
Alan J. Dopart, Willis of New Jersey, NJ [I]
Victor L. Dubrowski, Code Consultants, Incorporated, MO [SE]
Bruce A. Edwards, Liberty Mutual Property, MA [I]
Rep. Property Casualty Insurers Association of America
Byron (RJ) Foster, State of California, CA [E]
David Frable, US General Services Administration, IL [U]
Sam W. Francis, American Forest & Paper Association, PA [M]
Daniel F. Gemeny, The RJA Group, Incorporated, CA [SE]
Joseph T. Holland, III, Hoover Treated Wood Products, FL [M]
Gerald Kelliher, Westinghouse Savannah River Company, SC [U]
Kevin J. Kelly, National Fire Sprinkler Association, NY [M]
Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]
Kathleen Reid, Intel Corporation, NM [U]  
Rep. Semiconductor Industry Association
Sarah A. Rice, Schirmer Engineering Corporation, OH [I]
Brad Schiffer, Brad Schiffer/Taxis, Incorporated, FL [SE]
Robert A. Wessel, Gypsum Association, DC [M]
Robert J. Wills, American Iron and Steel Institute, AL [M]

Alternates

Robert G. Backstrom, Underwriters Laboratories Incorporated, IL [RT]  
(Alt. to Robert M. Berhning)
Brenda L. Bronson, US General Services Administration, CO [U]  
(Alt. to David Frable)
Michael A. Gardner, Gypsum Association, DC [M]  
(Alt. to Robert A. Wessel)
William E. Koffel, Koffel Associates, Incorporated, MD [U]  
(Alt. to Kathleen Reid)
Renato R. Molina, The RJA Group, Incorporated, FL [SE]  
(Alt. to Daniel F. Gemeny)
Dennis L. Pitts, American Forest & Paper Association, TX [M]  
(Alt. to Sam W. Francis)
Stephen V. Skallo, Portland Cement Association, GA [M]  
(Alt. to Joseph J. Messersmith)
Rick Thornberry, The Code Consortium, Incorporated, CA [M]  
(Voting Alt. to W.R. Grace Rep.)
Robert B. Treiber, National Fire Sprinkler Association, Incorporated, OH [M]  
(Alt. to Kevin J. Kelly)
Ronald R. Walker, Charlevoix, MI [V]  
(Alt. to Joseph T. Holland)
Staff Liaison: Bonnie E. Manley

Committee Scope: This Committee shall have primary responsibility for documents on the selection and design of types of building construction, exterior walls, building height and area, firewalls, and fire barrier walls, as they relate to the protection of life and property from fire. For the processing of NFPA 5000, Chapter 7, and Sections 8.3 and 8.4, this Committee reports directly to the NFPA 5000 TCC; whereas, for the processing of NFPA 220 and NFPA 221, this Committee does not report to the NFPA 5000 TCC.

Report of the Committee on Building Service and Fire Protection Equipment (BLD-BSF)

Richard L. Klinker, Chair  
Klinker & Associates, Incorporated, MD [SE]
Gregory E. Harrington, Nonvoting Secretary  
National Fire Protection Association, MA

Keith A. Ball, Tyco/SimplexGrinnell, FL [M]
Rep. National Electrical Manufacturers Association
Harry L. Bradley, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association
Pat D. Broock, Oklahoma State University, OK [SE]
Philip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]
Paul M. Donga, Boston Fire Department, MA [E]
Rep. National Elevator Industry Incorporated
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
Committee Scope: This Committee shall have primary responsibility for documents on the application of fire protection systems including detection, emergency movement of people in detention and correctional occupancies.

**Report of the Committee on**

Detention and Correctional Occupancies (BLD-DET)

**Chair**

Thomas W. Jaeger, Chair

Gage-Babcok & Associates, Incorporated, VA [SE]

**Nonvoting Secretary**

Ron Coté, Nonvoting Secretary

National Fire Protection Association, MA

**Alternates**

James R. Ambroso, Code Consultants, Incorporated, MO [SE]

David L. Bondon, St. Paul Fire and Marine, TX [I]

Rep. American Society of Safety Engineers

Peter J. Collins, US Department of Justice, DC [U]

Randy Gaw, Correctional Service of Canada, Canada [E]

Patrick G. Gordon, Philadelphia Prison System, PA [U]

Timothy (T.J.) Gottwald, ESSEX Industries, Incorporated, CT [M]

Rep. Builders Hardware Manufacturers Association

Kenneth E. Isman, National Fire Sprinkler Association, NY [M]

William E. Koffel, Koffel Associates, Incorporated, MD [SE]

Roger L. McDaniel, Florida Department of Corrections, FL [U]

Rep. Corrections Corporation of America

Robert L. Perry, Robert Perry Associates Incorporated, IL [M]

Rep. Door & Hardware Institute

Kenneth J. Schwartz, Schirmer Engineering Corporation, IL [I]

Wayne S. Smith, Texas State Fire Marshal, TX [E]

Rep. International Fire Marshals Association

David W. Spence, Corrections Corporation of America, TN [U]

**Alternates**

A. Larry Iseminger, Jr., Maryland State Fire Marshals Office, MD [E]

(Alt. to Wayne S. Smith)

Kevin J. Kelly, National Fire Sprinkler Association, NY [M]

(Alt. to Kenneth E. Isman)

Kurt A. Roeppe, Ingersoll Rand Security and Safety, OH [M]

(Alt. to Timothy (T.J.) Gottwald)

Ralph R. Winter, Code Consultants, Incorporated, IL [M]

(Alt. to James R. Ambroso)

John Younghusband, Schirmer Engineering Corporation, CA [I]

(Alt. to Kenneth J. Schwartz)

**Staff Liaison:** Ron Coté

**Committee Scope:** This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in detention and correctional occupancies.

**Report of the Committee on**

Educational and Day-Care Occupancies (BLD-END)

**Chair**

Catherine L. Stashak, Chair

Des Plaines, IL [E]

Rep. Illinois Fire Inspectors Association

**Nonvoting Secretary**

Ron Coté, Nonvoting Secretary

National Fire Protection Association, MA

**Alternates**

Scott R. Bartlett, Tyco/SimplexGrinnell, MA [M]

Samuel S. Dinnaway, S. S. Dinnaway Associates, Incorporated, HI [SE]

Victor L. Dubrowski, Code Consultants, Incorporated, MO [SE]

Douglas R. Freels, Performance Design Technologies, TN [SE]
Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in educational occupancies and day-care occupancies.

Report of the Committee on Fire Protection Features (BLD-FIR)

Eric R. Rosenbaum, Chair
Hughes Associates, Incorporated, MD [SE]

Miloš T. Puchovsky, Nonvoting Secretary
National Fire Protection Association, MA

Alternates

Donald W. Belles, Koffel Associates, Incorporated, TN [M]
(Alt. to William E. Kofel)

Joseph A. Brooks, Air Movement & Control Association International, IL [M]
(Alt. to Vickie J. Lovell)

Edward K. Budnick, Hughes Associates, Incorporated, MD [SE]
(Alt. to Eric R. Rosenbaum)

Joseph A. Castellano, The RJA Group, Incorporated, GA [SE]
(Alt. to Jeffrey A. Maddox)

Charles B. Clark, Jr., Brick Industry Association, VA [M]
(Voting Alt. to BIA Rep.)

David Cook, Ralph Gerdes Consultants, LLC, IN [SE]
(Alt. to Ralph Gerdes)

John F. Devlin, Schirmer Engineering Corporation, MD [J]
(Alt. to Carl F. Baldassarra)

Jack Gump, HSFB Professional Loss Control, TN [I]
(Alt. to Wayne D. Holmes)

(Alt. to Marshall A. Klein)

Alternates

Kevin J. Kelly, National Fire Sprinkler Association, NY [M]
(Alt. to Dominick G. Kass)

Amy J. Murdock, Code Consultants, Incorporated, MO [SE]
(Alt. to Victor L. Dubrowski)

Roger B. Rudy, Performance Design Technologies, LLC, TN [SE]
(Alt. to Douglas R. Freels)

Fred K. Walker, US Department of the Air Force, FL [U]
(Alt. to Ern A. M. Oneison)

Staff Liaison: Ron Coté

Committee Scope: This Committee shall have primary responsibility for documents on construction compartmentation, including the performance of assemblies, openings, and penetrations, as related to the protection of life and property from fire and other circumstances capable of producing similar consequences.

Report of the Committee on Fundamentals (BLD-FUN)

Morgan J. Hurley, Chair
Society of Fire Protection Engineers, MD [U]

Ron Coté, Nonvoting Secretary
National Fire Protection Association, MA

Alternates

Eugene A. Cable, US Department of Veterans Affairs, NY [U]
(Alt. to David P. Klein)

Robert M. Carasiti, Schirmer Engineering Corporation, MA [I]
(Alt. to James E. Churchill)

Jonathan Humble, American Iron and Steel Institute, CA [SE]
(Alt. to Robert J. Wills)

Mark Kluver, Portland Cement Association, CA [M]
(Alt. to Joseph J. Messersmith)

David A. Lewis, Code Consultants, Incorporated, MO [SE]
(Alt. to John W. McCormick)

William J. McHugh, Jr., Firestop Contractors International Association, IL [M]
(Alt. to Kathleen Taraba)

Andrew M. Schneider, Maryland State Fire Marshals Office, MD [E]
(Alt. to John F. Bender)

David P. Tyree, American Forest & Paper Association, CO [M]
(Alt. to Sam W. Francis)

Robert J. Wills, American Iron and Steel Institute, AL [M]
(Alt. to Jonathan Humble)

Staff Liaison: Miloš T. Puchovsky

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences.
Committee Scope: This Committee shall have primary responsibility for documents on the basic goals, objectives, performance requirements, and definitions for protection of human life and property from fire, earthquake, flood, wind, and other circumstances capable of producing similar consequences, and on the nonemergency and emergency movement of people.

Report of the Committee on Furnishings and Contents (BLD-FUR)

William E. Fitch, Chair
Omega Point Laboratories Incorporated, TX [RT]

Miloš T. Puchovsky, Nonvoting Secretary
National Fire Protection Association, MA

Vytenis Bahrauskas, Fire Science and Technology Incorporated, WA [SE]
Lisa Bonneville, Bonneville Design, MA [U]
Rep. American Society of Interior Designers

Eugene A. Cable, US Department of Veterans Affairs, NY [U]
Frederic B. Clarke, Benjamin Clarke Associates, Incorporated, VA [SE]
Paul Dillon, Southern Polytechnic State University, GA [M]
Rep. Sleep Products Safety Council

Pravinrao D. Gandhi, Underwriters Laboratories Incorporated, IL [RT]
Marcelo M. Hirschler, GBH International, CA [SE]
E. Ken McIntosh, Carpet and Rug Institute, GA [M]

Henry Paszczuk, City of New Britain Fire Department, CT [E]
T. Hugh Talley, Hugh Talley Company, TN [M]
Rep. American Furniture Manufacturers Association

Alternates

James K. Lathrop, Koffel Associates, Incorporated, CT [M]
(Alt. to E. Ken McIntosh)

James V. Ryan, Potomac, MD [SE]
(Alt. to Frederic B. Clarke)

Shelley Siegel, Accessible Interiors’ Network, Incorporated, FL [U]
(Alt. to Lisa Bonneville)

Staff Liaison: Miloš T. Puchovsky

Committee Scope: This Committee shall have primary responsibility for documents on limiting the impact of furnishings and building contents effect on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people.

Report of the Committee on Health Care Occupancies (BLD-HEA)

Daniel J. O’Connor, Chair
Schirmer Engineering Corporation, IL [I]

Ron Coté, Nonvoting Secretary
National Fire Protection Association, MA

James R. Ambrose, Code Consultants, Incorporated, MO [SE]
William N. Brooks, Eichleay Engineers, Incorporated, PA [SE]
Kenneth E. Bush, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association

Wayne G. Carson, Carson Associates, Incorporated, VA [SE]
Robert J. Carubia, Jr., West Virginia University Hospitals, WV [U]
Michael A. Crowley, The RJA Group, Incorporated, TX [SE]

Samuel S. Dannaway, S. S. Dannaway Associates, Incorporated, HI [SE]
Rep. American Society of Safety Engineers

Buddy Dewar, National Fire Sprinkler Association, FL [M]
Douglas S. Erickson, American Society for Healthcare Engineering, VI [U]
Kenneth S. Faulstich, US Department of Veterans Affairs, DC [U]

John E. Fishbeck, Joint Commission on Accreditation of Healthcare Organizations, IL [E]

Antonio Freire, Axa Courtage, France [I]
Donald W. Harris, California Office of Health Planning & Development, CA [E]
Thomas W. Jaeger, Gage-Babcock & Associates, Incorporated, VA [U]
Rep. American Health Care Association

John I. Mills, Beery, Rio & Associates, VA [SE]
Kirby W. Perry, Kirby W. Perry Architects & Associates Incorporated, TX [SE]
Rep. American Institute of Architects

Peter P. Petresky, Pennsylvania Department of Health, PA [E]
Rep. Association of Health Facility Survey Agencies

Brian Prediger, US Department of the Army, MD [U]

George F. Stevens, US Department of Health & Human Services, AZ [E]

John S. Taylor, Health South Rehabilitation Hospital of Southern Arizona, AZ. [U]
Rep. NFPA Health Care Section

Mayer D. Zimmerman, US Department of Health & Human Services, MD [E]

Alternates

James H. Antell, The RJA Group, Incorporated, IL [SE]
(Alt. to Michael A. Crowley)

Lori B. Dinney, Code Consultants, Incorporated, MO [SE]
(Alt. to James R. Ambrose)

Michael R. Durst, National Fire Sprinkler Association, CO [M]
(Alt. to Buddy Dewar)

Joshua W. Elbove, US Department of Veterans Affairs, CO [U]
(Alt. to Kenneth S. Faulstich)

J. Richard Fruth, Hayes Large Architects, PA [SE]
(Alt. to Kirby W. Perry)

Thomas W. Gardner, Schirmer Engineering Corporation, GA [I]
(Alt. to Daniel J. O’Connor)

William E. Koffel, Koffel Associates, Incorporated, MD [U]
(Alt. to Douglas S. Erickson)

Report of the Committee on Industrial, Storage, and Miscellaneous Occupancies (BLD-IND)

Wayne D. Holmes, Chair
HSB Professional Loss Control, CT [I]

Miloš T. Puchovsky, Nonvoting Secretary
National Fire Protection Association, MA

John A. Alderman, RRS Engineering, TX [SE]
Rep. American Society of Safety Engineers

Thomas L. Allison, Westinghouse Savannah River Company, SC [U]

Raymond E. Arntson, Rayden Research LLC, WI [SE]

Donald C. Birchler, FP&C Consultants Incorporated, MO [SE]

Howard M. Bucci, US Department of Energy, WA [U]

Charles E. Doody, Canton Fire Department, MA [E]

John F. Farney, Jr., Sargent & Lundy Engineers, IL [SE]

Larry L. Fluor, Fluor, Incorporated, CA [M]
Rep. Compressed Gas Association

Larry N. Garrett, Delphi Corporation, IN [U]
Rep. NFPA Industrial Fire Protection Section

James E. Golivneaux, Tyco Fire & Building Products, RI [M]
Rep. American Fire Sprinkler Association

Jonathan Humble, American Iron and Steel Institute, CT [M]

Ronald Keefer, Menlo Park Fire Protection District, CA [E]

Rep. Automotive Oil Change Association

Neal W. Krantz, LVC Technologies, Incorporated, MI [IM]
Rep. Automatic Fire Alarm Association, Incorporated

Richard S. Kraus, PSC Petroleum Safety Consultants, VA [U]
Rep. American Petroleum Institute

Raymond W. Lonabough, National Fire Sprinkler Association, PA [M]

Patrick A. McLaughlin, McLaughlin & Associates, RI [U]
Rep. Semiconductor Industry Association

Milton L. Norsworthy, Arch Chemicals, Incorporated, TN [M]

Anthony M. Ordile, Loss Control Associates, Incorporated, PA [SE]
Rep. TC on Storage and Warehousing of Containers and Portable Tanks

Phani K. Raj, Technology & Management Systems, Incorporated, MA [SE]
Rep. TC on Liquefied Petroleum Gases


Jeffrey M. Shapiro, International Code Consultants, TX [M]
Rep. The Chlorine Institute, Incorporated

Stephen V. Skalko, Portland Cement Association, GA [M]

Cleveland B. Skinker, Bechtel Power Corporation, MD [SE]

Bruce J. Swieciecki, National Propane Gas Association, IL [IM]

David C. Tabar, The Sherwin-Williams Company, OH [U]

Samuel Vanover, Jefferson Parish Fire Department, LA [E]
Rep. TC on Hazardous Chemicals

Carl Dewayne Wren, Austin Fire Department, TX [E]
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Alternates

(Alt. to Howard M. Bucci)
Daniel J. Gengler, National Fire Sprinkler Association, WI [M]
(Alt. to Raymond W. Lonabaugh)
Jack Gump, HSB Professional Loss Control, TN [I]
(Alt. to Wayne D. Holmes)
(Alt. to Marshall A. Klein)
Roland J. Huggins, American Fire Sprinkler Association, Incorporated, TX [M]
(Alt. to James E. Golivneaux)
Mark Kluer, Portland Cement Association, CA [M]
(Alt. to Stephen V. Skalko)
William E. Koffel, Koffel Associates, Incorporated, MD [U]
(Alt. to Patrick A. McLaughlin)
Todd D. Matteson, Westhouseburg Savannah River Company, SC [U]
(Alt. to Thomas L. Allison)
David J. Repasky, The Sherwin-Williams Company, OH [U]
(Alt. to David C. Tabar)
Roberto Lozano Rosales, Delphi Corporation, TX [U]
(Alt. to Larry N. Garrett)
Roger A. Smith, Compressed Gas Association, Incorporated, VA [M]
(Alt. to Larry L. Flier)
Gary F. Trojak, The Chlorine Institute, Incorporated, VA [M]
(Alt. to Jeffrey M. Shugar)
Robert J. Wills, American Iron and Steel Institute, AL [M]
(Alt. to Jonathan Humble)

Nonvoting

Virginia M. Gilman, US Department of Labor, DC [E]
Rep. Occupational Safety & Health Administration
(Alt. to Terence P. Smith)
Terence P. Smith, US Department of Labor, DC [E]
Rep. Occupational Safety & Health Administration

Staff Liaison: Milosh T. Puchovsky

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in industrial and storage occupancies, special circumstances, windowless and underground buildings, and high-rise buildings.

Report of the Committee on Materials (BLD-MAT)

Joseph H. Versteeg, Chair
Versteeg Associates, CT [E]
Rep. International Fire Marshals Association

Stanton M. Alexander, North American Testing Company, FL [U]
Jesse J. Beitel, Hughes Associates, Incorporated, MD [SE]
Richard L. P. Custer, Arup Fire, MA [SE]
J. Daniel Dolan, Washington State University, WA [E]
William E. Fitch, Omega Point Laboratories Incorporated, TX [RT]
Michael A. Gardner, gypsum Association, DC [M]
Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE]
Rep. American Institute of Architects
John C. Harrington, FM Global, MA [I]
Alfred J. Hogan, Reedy Creek Improvement District, FL [E]
William E. Koffel, Koffel Associates, Incorporated, MD [M]
Rep. Glazing Industry Code Committee
Harry W. (Hank) Martin, American Iron and Steel Institute, CA [M]
Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]
Dennis L. Pitts, American Forest & Paper Association, TX [M]
John C. Stevenson, John Stevenson Architect Incorporated, CA [SE]
Rep. American Institute of Architects
Jason J. Thompson, National Concrete Masonry Association, VA [M]
Rimas Veitas, Veitas & Veitas Engineers, Incorporated, MA [SE]
Rep. National Council of Structural Engineers Associations
Peter J. Willoe, GE Global Asset Protection Services, CT [I]

Alternates

Richard J. Davis, FM Global, MA [I]
(Alt. to John C. Harrington)
Karl D. Houser, EBL Engineers, LLC, MD [IM]
(Voting Alt. to AWCI Rep.)
Mark Kluer, Portland Cement Association, CA [M]
(Alt. to Joseph J. Messersmith)
Arthur J. Parker, Hughes Associates, Incorporated, MD [SE]
(Alt. to Jesse J. Beitel)
Norman J. Scheel, Norman Scheel Structural Engineer, CA [SE]
(Alt. to Rimas Veitas)

David P. Tyree, American Forest & Paper Association, CO [M]
(Alt. to Dennis L. Pitts)
Robert A. Wessel, Gypsum Association, DC [M]
(Alt. to Michael A. Bucci)
Robert J. Wills, American Iron and Steel Institute, AL [M]
(Alt. to Harry W. (Hank) Martin)

Staff Liaison: Bonnie E. Manley

Committee Scope: This Committee shall have primary responsibility for documents on the application of various building materials that are used in the construction of buildings, structures, and related facilities.

Report of the Committee on Means of Egress (BLD-MEA)

David A. de Vries, Chair
Firetech Engineering Incorporated, IL [SE]

Ron Coté, Nonvoting Secretary
National Fire Protection Association, MA

Lawrence Brown, National Association of Home Builders, DC [U]
John L. Bryan, Frederick, MD [SE]
Kenneth E. Bush, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association
Steven Di Pilla, ACE USA/ESIS Risk Control Services, NJ [I]
Rep. American Society of Safety Engineers
Joshua W. Elwove, US Department of Veterans Affairs, CO [U]
Philip C. Favro, Philip C. Favro & Associates, CA [SE]
Edward L. Fisen, Schirmer Engineering Corporation, CA [I]
David Frible, US General Services Administration, IL [U]
Rita C. Guest, Carson Guest, Incorporated, GA [U]
Rep. American Society of Interior Designers
Billy G. Helton, Lithonia Emergency Systems, GA [M]
Rep. National Electrical Manufacturers Association
William E. Koffel, Koffel Associates, Incorporated, MD [SE]
Erika D. Kuligowski, US National Institute of Standards & Technology, MD [RT]
Lawrence J. McGinty, US Central Intelligence Agency, DC [U]
Gary L. Nuschler, Otis Elevator Company, CT [M]
Rep. National Elevator Industry Incorporated
Jake Pauls, Jake Pauls Consulting Services in Building Use & Safety, MD [C]
Rep. American Public Health Association
Robert R. Perry, Robert Perry Associates Incorporated, IL [M]
Rep. Door & Hardware Institute
Eric R. Rosenbaum, Hughes Associates, Incorporated, MD [SE]
Michael S. Shulman, Underwriters Laboratories Incorporated, CA [RT]
Leslie Strull, The RJA Group, Incorporated, IL [SE]
Andrew L. Stuffer, City of Ventura Fire Department, CA [E]
Michael Tierney, Builders Hardware Manufacturers Association, CT [M]
Michael D. Tomy, Heery International Incorporated, GA [SE]
Rep. American Institute of Architects
Joseph H. Versteeg, Versteeg Associates, CT [E]
Rep. Fairfield CT Fire Marshal’s Office

Alternates

Warren D. Bonisch, Schirmer Engineering Corporation, TX [I]
(Alt. to Edward L. Fisen)
Michael A. Crowley, The RJA Group, Incorporated, TX [SE]
(Alt. to Leslie Strull)
Joseph M. DeRosier, US Department of Veteran Affairs, MI [U]
(Alt. to Joshua W. Elwove)
(Alt. to Gary L. Nuschler)
Barbara Elstein, Vinick Associates, Incorporated, CT [U]
(Alt. to Rita C. Guest)
Steven D. Holmes, Underwriters Laboratories Incorporated, CA [RT]
(Alt. to Michael S. Shulman)
James K. Lathrop, Kohler Associates, Incorporated, CT [SE]
(Alt. to William E. Koffel)
R. T. Leicht, State of Delaware, DE [E]
(Alt. to Kenneth E. Bush)
James A. Millik, University of Maryland, MD [SE]
(Alt. to John L. Bryan)
Brian T. Rhodes, Hughes Associates, Incorporated, MD [SE]
(Alt. to Eric R. Rosenbaum)
Roy W. Schwarzenberg, US Central Intelligence Agency, DC [U]
(Alt. to Lawrence J. McGinty)
Gregory J. Steinman, Thomas & Betts Corporation, TN [M]
(Alt. to Billy G. Helton)

Nonvoting

Pichaya Chantranuwat, Fusion Consultants Company Limited/Thailand, Thailand [E]
Matthew I. Chibbaro, US Department of Labor, DC [E]
Rep. Occupational Safety & Health Administration

5000-6
Report on Comments — Copyright, NFPA


Staff Liaison: Ron Coté

Committee Scope: This Committee shall have primary responsibility for documents on the general requirements for safe egress for protection of human life from fire and other circumstances capable of producing similar consequences, and on the nonemergency and emergency movement of people.

Report of the Committee on Mercantile and Business Occupancies (BLD-MER)

Ed Schultz, Chair
Code Consultants, Incorporated, MO [SE]

Milosh T. Puchovsky, Nonvoting Secretary
National Fire Protection Association, MA


William Hiota, The Taubman Company, MI [U]

Wayne D. Holmes, HSB Professional Loss Control, CT [I]

Jonathan Hume, American Iron and Steel Institute, CT [M]


Brian L. Marburger, St. Paul Travelers, IL [I] Jeff Martin, Elite Fire Protection, Canada [IM]

Rep. National Association of Fire Equipment Distributors

Richard V. Moon, Insurance Services Office, Incorporated, NJ [I]

Lawrence G. Perry, Building Owners & Managers Association International, MD [U]

Steven E. Randall, National Fire Sprinkler Association, FL [M]

Sheldon S. Rucinski, Schirmer Engineering Corporation, IL [I]

David C. Tabar, The Sherwin-Williams Company, OH [U]

Rick Thornberry, The Code Consortium, Incorporated, CA [SE]


Alternates

Tracey D. Bellamy, TVA Fire and Life Safety, Incorporated, GA [U] (Alt. to William J. Tomes)


Jack Gump, HSB Professional Loss Control, TN [I] (Alt. to Wayne D. Holmes)

Raymond W. Lonabaugh, National Fire Sprinkler Association, PA [M] (Alt. to Steven E. Randall)

Patrick A. McLaughlin, McLaughlin & Associates, RI [U] (Alt. to David C. Tabar)

Richard R. Osman, Schirmer Engineering Corporation, IL [I] (Alt. to Sheldon S. Rucinski)

Dennis L. Pitts, American Forest & Paper Association, TX [M] (Alt. to Sam W. Francis)

Terry Schultz, Code Consultants, Incorporated, MO [SE] (Alt. to Ed Schultz)

Robert J. Wills, American Iron and Steel Institute, AL [M] (Alt. to Jonathan Hume)

Staff Liaison: Milosh T. Puchovsky

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and for the emergency movement of people in mercantile and business occupancies.

Report of the Committee on Residential Occupancies (BLD-RES)

James K. Lathrop, Chair
Koffel Associates, Incorporated, CT [SE]

Gregory E. Harrington, Nonvoting Secretary
National Fire Protection Association, MA


Warren D. Bonisch, Schirmer Engineering Corporation, TX [I]

H. Wayne Boyd, US Safety & Engineering Corporation, CA [M]


Lawrence Brown, National Association of Home Builders, DC [U]

Phillip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]

James J. Convery, Arup Fire, NJ [SE]

Sam W. Francis, American Forest & Paper Association, PA [M]

Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE]


Robert Howe, Vermont Department of Labor & Industry, VT [E]

Rep. National Association of State Fire Marshals

Kenneth E. Isman, National Fire Sprinkler Association, NY [M]


Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]

Ronald G. Nickson, National Multi Housing Council, DC [U]


Henry Paskucz, City of New Zealand Fire Department, CT [E]


Peter Puhlick, University of Connecticut, CT [U] Alt. Robert A. Sebin, Tuoh and Robinson, Structural Engineers, Incorporated, CA [E]


John A. Sharry, Beakmann Properties, CA [U]

T. Hugh Talley, High Talley Company, TN [M]

Rep. National Furniture Manufacturers Association

Joseph H. Versteeg, Versteeg Associates, CT [SE]

Alternates

Carl F. Baldassarre, Schirmer Engineering Corporation, IL [I] (Alt. to Warren D. Bonisch)

David Cook, Ralph Gerdes Consultants, LLC, IN [SE] (Alt. to Ralph Gerdes)

Thomas G. Daly, Hilton Hotels Corporation, CA [U] (Alt. to James R. Bell)


Stanley C. Harbuck, School of Building Inspection, UT [C] (Alt. to Jake Paula)

Mark Kluver, Portland Cement Association, CA [M] (Alt. to Joseph J. Messersmith)


Donald J. Pampin, National Fire Sprinkler Association, WA [M] (Alt. to Kenneth E. Isman)

Dennis L. Pitts, American Forest & Paper Association, TX [M] (Alt. to Sam W. Francis)

Jeffrey L. Shearman, Zurich Services Corporation, PA [U] (Alt. to Byron L. Briesse)


Staff Liaison: Gregory E. Harrington

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in hotels, dormitories, apartments, lodging and rooming houses, and one- and two-family dwellings.

Report of the Committee on Structures and Construction (BLD-STR)

Peter J. Willse, Chair
GE Global Asset Protection Services, CT [I] Rep. GE Global Asset Protection Services


Richard J. Davis, FM Global, MA [I]

Carvin DiGiovanni, National Spa & Pool Institute, VA [M]

Ralph Dorio, Insurance Services Office, NJ [I]

Victor L. Dubrowski, Code Consultants, Incorporated, MO [SE]

Victor Feid, State Farm Insurance Company, IL [I]


John D. Gillengarten, State of California, CA [E]

Raymond A. Grill, The RJA Group, Incorporated, VA [SE]

Joseph P. Holland, III, Hoover Treatment Products, FL [M]


James R. Kirby, National Roofing Contractors Association, IL [M]

Harry W. (Hank) Martin, American Iron and Steel Institute, CA [M]

Joe McElvany, City of Phoenix, AZ [E]
This Report on Comments has been submitted to letter ballot of the applicable Technical Committees on the Building Code. The results of the balloting, after circulation of any negative votes, can be found in the report.

This Report on Comments has also been submitted to letter ballot of the Technical Correlating Committee on Building Code which consists of 28 voting members; of whom 16 voted affirmatively on all issues. Members voting negatively after receiving a record of negative ballots, and members abstaining are recorded below by comment number. 5 ballots were not returned (Jerry Jones, Nickson and Schwager).

5000-182 Negative: Baldassarra, Carson, Frable, Loscheider, Messersmith
5000-241 Negative: Kampmeyer
5000-323 Negative: Baldassarra, Frable
5000-324 Affirmative Comment: Baldassarra (Note: this was not a balloted item)
5000-324 Negative: Pauls (Note: this was not a balloted item)
5000-331a Negative: Baldassarra, Frable
5000-331b Negative: Baldassarra, Frable
5000-331c Negative: Baldassarra, Frable
5000-332 Affirmative Comment: Pauls
5000-359a Abstention: Collins
5000-518 Negative: Kelly
5000-522 Negative: Baldassarra, Frable
5000-524 Negative: Baldassarra, Frable
5000-526 Negative: Baldassarra, Frable
5000-565 Negative: Baldassarra, Carson, Collins, Frable, Loscheider, Messersmith
5000-718 Negative: Loscheider

Mr. Baldassarra: I agree with the negative comments of Frable and Messersmith that there are issues with the definition.

Mr. Carson: Definition is too broad. Could encompass many small storage locations. Definition needs more thought.

Mr. Frable: Even though this comment did receive the necessary 2/3 agreement to confirm the action of the IND Technical Committee, I believe the proposed action by the Technical Correlating Committee should have been to change the action of the IND Technical Committee from “Accept in Principal” to “Reject”, based on the 6 negative ballots from members of the IND Technical Committee. One of the responsibilities of the Technical Correlating Committee is to determine whether or not the Technical Committee action was given due consideration to all evidence presented to it in connection with the preparation of its Report including all comments relating to negative votes. I believe not all of the points and issues raised by the 6 negative votes have been given due process or have not been adequately addressed by the IND Technical Committee.

Mr. Loscheider: I agree with the TC negative comments by Holmes and Humble, and the negative comment by Klein should also be considered. Furthermore, the terms “owner,” “unrestricted access,” and “concealed from view” in the proposed TCC definition for “mini-storage facility” are likely to create adverse unintended side effects and other problems related to enforcement.

Mr. Messersmith: The definition of “mini-storage building” being added to the code by BLD-IND’s action on comment 5000-565 on proposal 5000-831, as further revised by the TCC note, will have drastic consequences on the way NFPA 5000 is applied to buildings with storage occupancies. Many buildings with storage occupancies are erected by developers as speculative ventures to be leased to more tenants. Although the use of very few of these structures resemble a “mini-storage building”, as it was envisioned when the definition was originally developed, it nevertheless will result in most such structures being classified as “mini-storage buildings.” Although six BLD-IND members in their negative votes on the comment pointed out flaws in the proposed definition, it achieved the required super majority needed to pass. Rather than the TCC further revising the definition and making it worse as is being proposed, the TCC should consider the technical merits of the arguments presented by the six BLD-IND members who voted against it, and change the action from “Accept in Principle” to “Reject.”

5000-241 Negative

Mr. Kampmeyer: According to my notes of the TCC Meeting, comment 5000-241 was deleted.

5000-323 Negative

Mr. Baldassarra: The proposal lacks technical substantiation, as raised by some members of the TC, and those comments have not been adequately addressed. Therefore, this is a TCC issue.

Mr. Frable: The two Technical Committees most affected by this proposed code change are the Technical Committee on Mercantile and Business Occupancies (BLD-MER) and the Technical Committee on Industrial, Storage, and Miscellaneous Occupancies (e.g., high-rise buildings) (BLD-IND). It is noted in the Technical Correlating Committee Note that the basis for retaining the action of “Accept in Principal” by BLD-MEA is based on Comment 5000-333a by BLD-AXM. The substantiation in Comment 5000-333a states that the BLD-AXM met following the BLD-MER meeting and had the opportunity to hear the concerns raised by BLD-MER. The concerns raised by BLD-MER are in Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the revised text.
and other emergency responders without causing undue interference to evacuees attempting to transition from the stair to the exit discharge door.”

5000-331a Negative Mr. Baldassarra: I agree with Mr. Frable’s comments.

Mr. Frable: The two Technical Committees most affected by this proposed code change are the Technical Committee on Mercantile and Business Occupancies (BLD-MER) and the Technical Committee on Industrial, Storage, and Miscellaneous Occupancies (e.g., high-rise buildings) (BLD-IND).

It should be noted that the substantiation in Comment 5000-331a states that the BLD-RES met following the BLD-MER Technical Committee Meeting and had the opportunity to hear the concerns raised by the BLD-MER Technical Committee. The concerns raised by BLD-MER are in Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the text of Comment 5000-331a. Therefore, BLD-MER was not aware of the 6 negative votes on this issue even though this code change affects their occupancy more than BLD-AXM. However, the outcome of this proposed code change is based on the action taken by the Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM). Following this action, an information ballot was issued to the BLD-MEA Technical Committee on this Comment (19 in agreement and 3 in disagreement). The primary issue of disagreement involved the trigger of 2000 occupants and corresponding stair width not being based on any technical data or research to support the increased stair width to address counter-flow problems on exit stairs encountered by first responders and evacuees in multi-storied buildings. Please also note that BLD-MEA was not aware of the 6 negative votes by members of BLD-IND on Comment 5000-331c.

Even though this comment did receive the necessary 2/3 agreement to confirm the action of BLD-AXM, I believe the proposed action by the Technical Correlating Committee should have been to change the action of the BLD-MEA from “Accept” to “Reject”, based on the concerns raised by the 3 negative informational ballots from members of the BLD-MEA, the concerns raised in the BLD-MER substantiation in Comment 5000-526, and the concerns raised by BLD-IND on Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the text of Comment 5000-331a. Therefore, BLD-MER was not aware of the 6 negative votes on this issue even though this code change affects their occupancy more than BLD-AXM. However, the outcome of this proposed code change is based on the action taken by the Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM). Following this action, an information ballot was issued to the BLD-MEA Technical Committee on this Comment (19 in agreement and 3 in disagreement). The primary issue of disagreement involved the trigger of 2000 occupants and corresponding stair width not being based on any technical data or research to support the increased stair width to address counter-flow problems on exit stairs encountered by first responders and evacuees in multi-storied buildings. Please also note that BLD-MEA was not aware of the 6 negative votes by members of BLD-IND on Comment 5000-331c.

5000-331b Negative Mr. Baldassarra: I agree with Mr. Frable’s comments.

Mr. Frable: The two Technical Committees most affected by this proposed code change are the Technical Committee on Mercantile and Business Occupancies (BLD-MER) and the Technical Committee on Industrial, Storage, and Miscellaneous Occupancies (e.g., high-rise buildings) (BLD-IND).

It should be noted that the substantiation in Comment 5000-331b states that the BLD-RES met following the BLD-MER Technical Committee Meeting and had the opportunity to hear the concerns raised by BLD-MER. The concerns raised by BLD-MER are in Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the text of Comment 5000-331b. Therefore, BLD-MER was not aware of the 6 negative votes on this issue even though this code change affects their occupancy more than BLD-AXM. However, the outcome of this proposed code change is based on the action taken by the Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM). Following this action, an information ballot was issued to the BLD-MEA Technical Committee on this Comment (19 in agreement and 3 in disagreement). The primary issue of disagreement involved the trigger of 2000 occupants and corresponding stair width not being based on any technical data or research to support the increased stair width to address counter-flow problems on exit stairs encountered by first responders and evacuees in multi-storied buildings. Please also note that BLD-MEA was not aware of the 6 negative votes by members of BLD-IND on Comment 5000-331b.

Even though this comment did receive the necessary 2/3 agreement to confirm the action of BLD-AXM, I believe the proposed action by the Technical Correlating Committee should have been to change the action of the BLD-MEA from “Accept” to “Reject”, based on the concerns raised by the 3 negative informational ballots from members of the BLD-MEA, the concerns raised in the BLD-MER substantiation in Comment 5000-526, and the concerns raised by BLD-IND on Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the text of Comment 5000-331b. Therefore, BLD-MER was not aware of the 6 negative votes on this issue even though this code change affects their occupancy more than BLD-AXM. However, the outcome of this proposed code change is based on the action taken by the Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM). Following this action, an information ballot was issued to the BLD-MEA Technical Committee on this Comment (19 in agreement and 3 in disagreement). The primary issue of disagreement involved the trigger of 2000 occupants and corresponding stair width not being based on any technical data or research to support the increased stair width to address counter-flow problems on exit stairs encountered by first responders and evacuees in multi-storied buildings. Please also note that BLD-MEA was not aware of the 6 negative votes by members of BLD-IND on Comment 5000-331b.

Even though this comment did receive the necessary 2/3 agreement to confirm the action of BLD-AXM, I believe the proposed action by the Technical Correlating Committee should have been to change the action of the BLD-MEA from “Accept” to “Reject”, based on the concerns raised by the 3 negative informational ballots from members of the BLD-MEA, the concerns raised in the BLD-MER substantiation in Comment 5000-526, and the concerns raised by BLD-IND on Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the text of Comment 5000-331b. Therefore, BLD-MER was not aware of the 6 negative votes on this issue even though this code change affects their occupancy more than BLD-AXM. However, the outcome of this proposed code change is based on the action taken by the Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM). Following this action, an information ballot was issued to the BLD-MEA Technical Committee on this Comment (19 in agreement and 3 in disagreement). The primary issue of disagreement involved the trigger of 2000 occupants and corresponding stair width not being based on any technical data or research to support the increased stair width to address counter-flow problems on exit stairs encountered by first responders and evacuees in multi-storied buildings. Please also note that BLD-MEA was not aware of the 6 negative votes by members of BLD-IND on Comment 5000-331b.

Even though this comment did receive the necessary 2/3 agreement to confirm the action of BLD-AXM, I believe the proposed action by the Technical Correlating Committee should have been to change the action of the BLD-MEA from “Accept” to “Reject”, based on the concerns raised by the 3 negative informational ballots from members of the BLD-MEA, the concerns raised in the BLD-MER substantiation in Comment 5000-526, and the concerns raised by BLD-IND on Comment 5000-526. However, BLD-MER never had an opportunity to ensure their concerns were addressed in the text of Comment 5000-331b. Therefore, BLD-MER was not aware of the 6 negative votes on this issue even though this code change affects their occupancy more than BLD-AXM. However, the outcome of this proposed code change is based on the action taken by the Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM). Following this action, an information ballot was issued to the BLD-MEA Technical Committee on this Comment (19 in agreement and 3 in disagreement). The primary issue of disagreement involved the trigger of 2000 occupants and corresponding stair width not being based on any technical data or research to support the increased stair width to address counter-flow problems on exit stairs encountered by first responders and evacuees in multi-storied buildings. Please also note that BLD-MEA was not aware of the 6 negative votes by members of BLD-IND on Comment 5000-331b.
Mr. Baldassarri: I agree with Mr. Frable’s comments.

Mr. Frable: Even though this comment did receive the necessary 2/3 agreement of the BLD-IND, I believe the proposed action by the Technical Correlating Committee should have been to change the action of the BLD-IND from “Accept” to “Reject”, based on the concerns raised in the BLD-MER substantiation in Comment 5000-526 and the 6 negative votes cast by members of BLD-IND in Comment 5000-331c. One of the responsibilities of the Technical Correlating Committee is to determine whether or not the Technical Committee has given due consideration to all evidence presented to it in connection with the preparation of its Report. I believe the points and issues raised by the members of the BLD-MER, and BLD-IND have not been given due process and not have been adequately addressed by the Technical Correlating Committee. In addition, I believe the concerns raised in Comments 5000-522 and 5000-526 also have not been taken into consideration. See my related negative reasons on Comment 5000-323.

Mr. Baldassarri: I agree with Mr. Frable’s comments.

Mr. Frable: This comment did receive the necessary 2/3 agreement to confirm the action of “Accept in Principal” by BLD-MER. I believe the proposed action by the Technical Correlating Committee should have been to maintain the action of “Accept in Principal” by BLD-MER based on the concerns raised in the BLD-MER substantiation in Comment 5000-526, and the 6 negative votes cast by members of BLD-IND in Comment 5000-331c. One of the responsibilities of the Technical Correlating Committee is to determine whether or not the Technical Committee has given due consideration to all evidence presented to it in connection with the preparation of its Report. I believe the points and issues raised by the members of the BLD-MER, and BLD-IND have not been given due process and not have been adequately addressed by the Technical Correlating Committee. In addition, I believe the concerns raised in Comments 5000-522 and 5000-526 also have not been taken into consideration. See my related negative reasons on Comments 5000-523 and 5000-331a.

Mr. Baldassarri: I agree with Mr. Frable’s comments.

Mr. Frable: Even though this comment did receive the necessary 2/3 agreement to confirm the action of “Reject” by BLD-MER. I believe the proposed action by the Technical Correlating Committee should have been to maintain the action of “Reject” by BLD-MER based on their concerns raised in the BLD-MER substantiation and the 6 negative votes cast by members of BLD-IND in Comment 5000-331c. One of the responsibilities of the Technical Correlating Committee is to determine whether or not the Technical Committee has given due consideration to all evidence presented to it in connection with the preparation of its Report. I believe the points and issues raised by the members of the BLD-MER, and BLD-IND have not been given due process and not have been adequately addressed by the Technical Correlating Committee. In addition, I believe the concerns raised in Comments 5000-522 and 5000-526 also have not been taken into consideration. See my related negative reasons on Comments 5000-523 and 5000-331a.

Mr. Baldassarri: I agree with the numeric negative comments; the language will lead to enforcement issues.

Mr. Carson: Definition is too broad. Could include many small storage locations without any justification.

Mr. Collins: The proposed definition for “mini-storage building” does nothing to enhance the understanding of what the code intends regarding the creation of such a facility. Placing the authority having jurisdiction in the position of trying to determine if someone will or will not have “unrestricted access” seems absurd on its face, as there is no way to determine how the owner will manage his contracts to have access to the leased spaces.

Mr. Frable: Even though this comment did receive the necessary 2/3 agreement to confirm the action of the IND Technical Committee, I believe the proposed action by the Technical Correlating Committee should have been to maintain the action of “Accept in Principal” by BLD-MER based on their concerns raised in the BLD-MER substantiation and the 6 negative votes cast by members of BLD-IND in Comment 5000-331c. One of the responsibilities of the Technical Correlating Committee is to determine whether or not the Technical Committee has given due consideration to all evidence presented to it in connection with the preparation of its Report. I believe the points and issues raised by the members of the BLD-MER, and BLD-IND have not been given due process and not have been adequately addressed by the Technical Correlating Committee. In addition, I believe the concerns raised in Comments 5000-522 and 5000-526 also have not been taken into consideration. See my related negative reasons on Comments 5000-523 and 5000-331a.

Mr. Loscheider: I agree with the TC negative comments by Holmes and Humble, and the negative comment by Klein should also be considered. I agree with Mr. Frable’s comments regarding the word “access” in the proposed TCC definition for “mini-storage facility” are likely to create adverse unintended side effects and other problems related to enforcement.

Mr. Messersmith: The definition of “mini-storage building” being added to the code by BLD-IND’s action on comment 5000-565 on proposal 5000-831, as further revised by the TCC note, will have drastic consequences on
the way NFPA 5000 is applied to buildings with storage occupancies. Many buildings with storage occupancies are erected by developers as speculative ventures to be leased to one or more tenants. Although the use of very few of these structures resemble a “mini-storage building”, as was envisioned when the definition was originally developed, it nevertheless will result in most such structures being classified as “mini-storage buildings.”. Although six BLD-IND members in their negative votes on the comment pointed out flaws in the proposed definition, it achieved the required super majority needed to pass. Rather than TCC further revising the definition and making it worse as is being proposed, the TCC should consider the technical merits of the arguments presented by the six BLD-IND members who voted against it, and change the action from “Accept in Principle” to “Reject”.

5000-718 Negative
Mr. Loscheider: AISC 341-05 Section 14.3 has added a prescriptive requirement for ordinary braced frames that severely and unreasonably penalizes some bracing configurations by requiring unbalanced beam loadings that have no relationship whatsoever with the actual seismic loads. This new requirement conflicts internally with other provisions within AISC 341, and it also conflicts with the intent of ASCE 7-05 as amended by the forthcoming Supplement 1. I have expressed my concerns to AISC, and AISC’s TC 9 will consider this issue at its next meeting in March 2005. It would be appropriate for AISC to correct this unfortunate situation by issuing a supplement to AISC 341-05. In my opinion, AISC 341-05 should not be adopted without such a correction.
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
- Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
- SUBSTANTIATION: See the above recommendation.
- COMMITTEE MEETING ACTION: Accept in Principle
- No further action required by BLD-FUN.
- COMMITTEE STATEMENT: Staff is implementing the units of measurement policy.
- NUMBER ELIGIBLE TO VOTE: 23
- BALLOT RESULTS: Affirmative: 21
- BALLOT NOT RETURNED: 2 ALLEN, WATTS

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-21
RECOMMENDATION: Provide a list of sections that BLD-BLC is responsible for where the proposed action still needs to be achieved.
- SUBSTANTIATION: See the above recommendation.
- COMMITTEE MEETING ACTION: Accept in Principle
- Insert the language “electrically supervised automatic sprinkler system in accordance with NFPA 13” in the following sections of Chapter 7: 7.3.8.1(4) and 7.3.10.2.3.
- COMMITTEE STATEMENT: Please note, based upon the action in Comment 5000-215 and Comment 5000-213b (Log #CC70), these sections will be relocated back to Chapter 37, in which case these changes should be made to 37.1.3.1(4) and 37.2.2.3.
- NUMBER ELIGIBLE TO VOTE: 23
- BALLOT RESULTS: Affirmative: 21
- BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-24
RECOMMENDATION: Give consideration to Koffel’s explanation of negative so as to make any needed changes.
- SUBSTANTIATION: See the above recommendation.
- COMMITTEE MEETING ACTION: Accept in Principle
- No further action needed by BLD-MEA.
- COMMITTEE STATEMENT: The action taken on Proposal 5000-24 remains necessary for correlation with Chapter 55.
- NUMBER ELIGIBLE TO VOTE: 24
- BALLOT RESULTS: Affirmative: 23 Abstain: 1
- EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
- Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
- SUBSTANTIATION: See the above recommendation.
- COMMITTEE MEETING ACTION: Accept in Principle
- No action is necessary.
- COMMITTEE STATEMENT: No further modifications are necessary at this time.
- NUMBER ELIGIBLE TO VOTE: 22
- BALLOT RESULTS: Affirmative: 22

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
- Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
- SUBSTANTIATION: See the above recommendation.
- COMMITTEE MEETING ACTION: Accept in Principle
- No further action needed by BLD-FUN.
- COMMITTEE STATEMENT: NFPA staff is implementing the units of measurement directive.
- NUMBER ELIGIBLE TO VOTE: 24
- BALLOT RESULTS: Affirmative: 23 Abstain: 1
- EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.
COMMITTEE STATEMENT:

COMMITTEE MEETING ACTION: Accept

COMMITTEE MEETING ACTION: Accept in Principle

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COMMITTEE MEETING ACTION: Accept in Principle
5000-15 Log #3i BLD-MER  FINAL ACTION: Accept
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-16 Log #3m BLD-IND  FINAL ACTION: Accept
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-17 Log #3n BLD-STR  FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN
EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-18 Log #3o BLD-MAT  FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-3
RECOMMENDATION: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:
Follow the convention for using inch units as shown on item 2 of the TC recommendation when preparing any future drafts and when preparing the final code.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN
EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.
COMMITTEE STATEMENT:
BALLOT NOT RETURNED:
BALLOT RESULTS:
NUMBER ELIGIBLE TO VOTE: 12

substantiation provides additional technical justification for the use of this exposure as proposed and accepted in Proposal 5000-301. The proposal’s substantiation provides additional technical justification for the use of this approach.

Also, please see Committee Statement on Proposal 5000-10. The Technical Committee requested that the commenter provide additional technical or statistical justification for the removal of a major fire protection concept. This comment does not provide this requested information.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-23 Log #605c BLD-END
FINAL ACTION: Reject
(Entire Document)

COMMENT ON PROPOSAL NO: 5000-4
RECOMMENDATION: Reconsider the original proposal.
SUBSTANTIATION: None of the technical committee owned up to being the keepers of this concept. All the committee substantiations stated that it was either not in their chapter or not within their scope. Structures committee appears to have control of this concept. If no technical committee wants to claim responsibility for the text, than it should be deleted from the document.
No technical substantiation as to why the proposal was rejected has been supplied.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment and continue to endorse the concept of compartmentation in limiting exposure as proposed and accepted in Proposal 5000-301. The proposal’s substantiation provides additional technical justification for the use of this approach.

5000-24 Log #7a BLD-FUN
FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-55
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
See related TCC note on 5000-37.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: The Technical Committee agreed to make the recommended changes in the identified sections.
NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-25 Log #8 BLD-MER
FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-55
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
See related TCC note on 5000-37.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: The submitter’s recommendation has already been implemented in the 2003 edition of the code. See sections 27.1.2.2(3), 27.1.3.2.4(3), 27.2.2.2.5, 27.2.2.12.2, 27.2.4(3), 27.2.5.2.1, 27.2.5.8, 27.2.6.2, 27.2.7.2, 27.3.1(1), 27.3.2.1.2, 27.3.4.2(2), 27.3.4.2(3), 27.3.5.1, 27.3.5.2, 27.3.6.1(3), 27.4.4.5.10.2, 27.4.4.7.1.1, 27.4.5.5, 28.2.2.12.2, 28.2.4.2(4), 28.2.4.2(5), 28.2.5.2.1, 28.2.5.3.1, 28.2.6.1, 28.3.4.2, and 28.3.6.1.

5000-26 Log #9 BLD-MAT
FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-55
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
See related TCC note on 5000-37.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: The Technical Committee agreed to make the recommended changes in the identified sections.
NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-27 Log #10 BLD-BSY
FINAL ACTION: Accept in Principle
(Entire Document)

TCC Action: The Technical Correlating Committee (TCC) directs that the action be revised ACCEPT TO “ACCEPT IN PRINCIPLE – Make the changes to Chapters 12 and 49-54 which are the responsibility of Building Systems Committee.
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-56
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
See related TCC note on 5000-37.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 14
BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINIELLI, SIEGEL, VAN BECLEAERE

5000-28 Log #11 BLD-AXM
FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-57
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
See related TCC note on 5000-37.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: In Chapter 16, the generalized references to Section 55.3 that appear in note # to Table 16.1.5.2, and in 16.3.5.1.1 are needed. The specific references to NFPA 13 in 16.4.5.6 and 16.4.5.10 are needed. No changes are needed.
NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARRETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-29 Log #12 BLD-BCF
FINAL ACTION: Accept in Principle
(Entire Document)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-58
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
See related TCC note on 5000-37.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: Revise the following paragraphs as per the TCC note:
26.2.3.5.2 Where an automatic sprinkler system is installed, for either total or partial building coverage, the following requirements shall be met:
(1) The system shall be in accordance with 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3).
(2) The adequacy of the water supply shall be documented to the authority having jurisdiction.
COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-END.

COMMITTEE MEETING ACTION: The BLD-END committee reviewed its references to Section 55.3 in 17.5.2, 17.2.5.3, 17.2.5.4(2d)(b), 17.2.11.2,17.3.5.1, 17.3.5.3, 17.3.5.4, 17.3.5.5, 17.3.6(5), 17.3.7(1b), 17.5.5.2, 18.2.5.2, 18.2.5.3, 18.2.6.2(4), 18.2.11.2(1), 18.3.5.1, 18.3.5.3, 18.3.5.4 and 18.3.6(6). Each entry correctly refers in a general way to Section 55.3, and not to a specific sprinkler system installation standard. The generalized reference to Section 55.3 is what is intended as Chapters 17 and 18 do not site specific sprinkler system installation standards.

NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

5000-33 Log #16 BLD-FIR FINAL ACTION: Accept in Principle (Entire Document)

COMMITTEE: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-62
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
1. In 8.12.2(4a) revise “Section 55.3” to read “NFPA 13 or NFPA 13R”.
2. In 8.12.2(5) revise “Section 55.3” to read “NFPA 13 or NFPA 13R”.
3. In 8.12.2(4) revise “Section 55.3” to read “NFPA 13 or NFPA 13R”, and maintain the reference to 55.3.2.
4. In 8.12.5.2(2) revise “Section 11.3” to read “NFPA 13 or NFPA 13R”, and maintain the existing reference to NFPA 13.
5. In 8.12.5(3) revise “Section 55.3” to read “NFPA 13 or NFPA 13R”.
6. In 8.14.1.2(1) revise “Section 55.3” to read “NFPA 13”. In addition, add the term “concealed” in from the term “space”.
7. In 5.15.1.1(2) revise “Section 55.3” to read “chapter 55”.
8. In 8.15.1.2(1) revise “Section 55.3” to read “NFPA 13”.

COMMITTEE STATEMENT: This meets the intent of the submitter, and specifies the types of fire protection systems intended by the committee.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-34 Log #17 BLD-FUN FINAL ACTION: Accept in Principle (Entire Document)

COMMITTEE: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-63
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: For code sections under the purview of BLD-FUN, direct reference to NFPA 13 has been accomplished. Specifically:
1. In Table 6.2.4.1, the footnote references NFPA 13 per action on Proposal 101-286.
2. Paragraph 15.4.2.9 already references NFPA 13.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-35 Log #18 BLD-FUR FINAL ACTION: Reject (Entire Document)

COMMITTEE: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-64
RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee is of the opinion that the type of sprinkler system installed would not have a significant impact with regard to the fire behavior of interior finish materials. In addition Chapter 55 includes other requirements pertaining to sprinkler systems which the committee believes are applicable.

NUMBER ELIGIBLE TO VOTE: 11
BALLOT RESULTS: Affirmative: 10 Negative: 1

EXPLANATION OF NEGATIVE: HIRSCHLER: I disagree with allowing sprinkler trade-offs that are not based on a full NFPA 13 system. Thus, I believe that the references should be to NFPA 13.
COMMITTEE STATEMENT:

1. In Table 29.2.5.1, revise the phrase “in accordance with 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in four places.

2. In Table 29.2.6, revise the phrase “in accordance with 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in four places.

3. In section 29.3.5.1 revise the phrase “in accordance with Section 55.3” to read “in accordance with NFPA 13”.

4. In the Table 30.2.5, revise the phrase “in accordance with 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in four places.

5. In Table 30.2.6, revise the phrase “in accordance with 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in two places.

6. In section 30.3.5.1 revise the phrase “in accordance with Section 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in two places.

7. In Table 30.7.5.2, revise the phrase “in accordance with 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in two places.

8. In Table 30.8.2.6, revise the phrase “in accordance with 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2” in two places.

9. In section 30.8.3.5.1, revise the phrase “shall conform to Section 55.3” to read “shall conform to NFPA 13”.

10. In section 31.2.1, revise the phrase “in accordance with Section 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2”.

11. In section 31.3.1.3, revise the phrase “in accordance with Section 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2”.

12. In section 33.2.2.1, revise the phrase “in accordance with Section 55.3 and 55.3.2” to read “in accordance with NFPA 13 and 55.3.2”.

COMMITTEE STATEMENT: Meets the intent of the submitter.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAI, WREN

COMMITTEE MEETING ACTION: Accept in Principle

SUBSTANTIATION: See the above recommendation.

COMMENT ON PROPOSAL NO: 5000-67

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

COMMITTEE MEETING ACTION: Accept in Principle

SUBSTANTIATION: See the above recommendation.

RECOMMENDATION: The use of automatic sprinkler systems in accordance with 55.3.1.1(3) or more of the installation standards NFPA 13, NFPA 13R or NFPA 13D in the remaining location, 11.2.5.2 Exception No. 2 subitem (1), NFPA 13 and NFPA 13R are called out directly. The rejection of Proposal 5000-67 will retain the system complies with 55.3.1.1(1) NFPA 13 and NFPA 13R.

COMMITTEE STATEMENT: Makes the intent of the submitter.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, Tomes
(2) In buildings up to and including four stories in height above grade, systems in accordance with 55.3.3.1(2) NFPA 13R shall be permitted. 55.3.5.1* Unless otherwise specified in Chapter 7, where modifications are permitted by this Code, based on the installation of an automatic sprinkler system, such modifications shall be permitted when the automatic sprinkler system complies with 55.3.1.1(1) NFPA 13 or 55.3.1.1(2) NFPA 13R. 55.3.5.4 Where an automatic sprinkler system is installed, either for total or partial building coverage, the following requirements shall apply:
(1) The system shall be installed in accordance with Section 55.3, as modified by 25.3.5.5 through 25.3.5.7.
(2) In buildings up to and including four stories in height above grade, systems in accordance with 55.3.1.1(2) NFPA 13R shall be permitted. 55.3.5.5 In buildings sprinklered in accordance with 55.3.1.1(1) NFPA 13, closets shall meet the following requirements:
(1) Closets of less than 12 ft² (1.1 m²) in individual dwelling units shall not be required to be sprinklered.
(2) Closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered, regardless of size.
COMMITTEE STATEMENT: The committee action accomplishes what is requested by the Technical Correlating Committee.

NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 20 Negative: 1 Abstain: 1
BALLOT NOT RETURNED: 3 BONISCH, CONVET, ONEISOM
EXPLANATION OF VOTE:
FRANCIS: No reason provided.
COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See the above recommendation.

COMMITTEE STATEMENT: The action on Comment 5000-38 should meet the submitter’s intent. See the committee statement on Comment 5000-38.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC note on 5000-37.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-37 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE STATEMENT: The action does what the TCC requested.

See related TCC notes on 5000-37 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION:
See related TCC notes on 5000-55 through 5000-70.
COMMITTEE STATEMENT: No further action needed by BLD-HEA.

BALLOT NOT RETURNED:

BALLOT RESULTS: Affirmative: 13
BALLOT NOT RETURNED: 1

COMMITTEE STATEMENT: The action on Comment 5000-29 accomplishes what is requested by the Technical Correlating Committee.

COMMITTEE MEETING ACTION: Accept in Principle
See the action on Comment 5000-29.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

AFFIRMATIVE: 17
ABSTAIN: 1


NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

COMMITTEE MEETING ACTION: Accept
See Committee Action and Statement for Comment 5000-37.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 6

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

COMMITTEE MEETING ACTION: Accept
See Committee Action and Statement for Comment 5000-37.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-37

RECOMMENDATION: Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-37.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-37.
COMMITTEE MEETING ACTION: Accept in Principle

Further revise the action on Proposal 5000-72 as follows:

1.7.6.3.3.3 The construction documents for each phase shall be complete in themselves so that review and inspection can properly be made. Preliminary plans of the total building shall be submitted with the working drawings construction documents, and with enough detail so that proper evaluation can be made. Areas and items not included in the phase to be permitted shall be shown as not included.

1.7.6.3.3.4 Deferred Submittals. Deferred submittal of construction documents shall be approved by the authority having jurisdiction prior to the issuance of a building permit. The responsible registered design professional (RDP) for design shall identify all deferred submittals in writing with the application for permit. Construction documents for deferred submittal items shall be reviewed by the responsible RDP for design for general conformance to the RDP’s design and then submitted to the authority having jurisdiction. Deferred submittal items shall not be installed until their performance requirements and construction documents have been approved by the authority having jurisdiction.

1.7.6.4.2 After permit issuance, all changes and deviations from the approved plans construction documents shall be submitted to the authority having jurisdiction for approval.

1.7.6.5.4.2 Whenever the work for which a permit has been issued is not being performed in conformance with approved construction documents, or approved construction documents are not being kept at the site, the authority having jurisdiction shall notify the contractor or owner or his/her agent in writing that the permit is suspended. Written notice shall be mailed or given to the permit holder or their agent, and it shall be unlawful for any person or persons to perform any work in or about the building or structure, except work required for correction of the violations. If, in the judgment of the authority having jurisdiction, there is imminent danger that requires immediate action, the permit can be revoked or suspended verbally and written notice shall be served later.

COMMITTEE STATEMENT: The revisions to 1.7.6.3.3.4 clarify that they apply to the RDP for design. The other changes are editorial corrections. In the absence of any recommended changes from BLD-STR, the BLD-FUN committee is not aware of any other needed changes.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-60 Log #469 BLD-FUN  FINAL ACTION: Reject (1.3.2)

SUBMITTER: Joe McElvaney Phoenix, AZ
COMMENT ON PROPOSAL NO: 5000-74
RECOMMENDATION: Accept Proposal 5000-74 Log #229.

SUBSTANTIATION: The Committee states that it is not always possible to determine which standard is more stringent. The provisions of NFPA 5000 must prevail. Over some number of code revisions, the requirements can be coordinated with those of the referenced standards. The AHJ and Design team determine which standard is more stringent every time the one does plan review or design a building. By adding my proposed exception the most restrictive clause then the other Chapters like 6-15 can be sure their section would apply if they are most restrictive.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The BLD-FUN committee acted in agreement with the directive from the Technical Correlating Committee that NFPA 5000 must prevail where there are conflicts. Over future revision cycles, the needed co-ordination between NFPA 5000 and the referenced documents will occur.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-61 Log #547 BLD-FUN  FINAL ACTION: Reject (1.3.2)

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.
COMMENT ON PROPOSAL NO: 5000-71
RECOMMENDATION: Add new text as follows:

1.3.2 References to Requirements of Other Codes or Standards. Where the requirements of a referenced code or standard differ from the requirements of this Code, the requirements of this Code shall govern.

Exception: The requirements of NFPA 1124 shall govern where applicable to the uses, occupancies, and structures regulated by NFPA 1124 for the following:

1. Building height limits
2. Fire separation distances
3. Control areas
4. Occupancy and tenant separations
5. Means of egress
6. Fire protection systems and equipment
7. Explosion control
8. Smoke and heat venting

SUBSTANTIATION: Presently, there are significant conflicts between the fire and life safety requirements contained in NFPA 5000 and those contained in NFPA 1124-2003. In many cases, the conflicts are a result of NFPA 1124 being more restrictive than NFPA 5000. However, the present language in Section 1.3.2 states that where there is a different requirement between a referenced code and NFPA 5000, the requirements of NFPA 5000 shall govern. This can result in a significant lessening in the level of fire and life safety provided for the various uses and occupancies in the buildings and structures regulated by NFPA 1124 relating to the manufacture, transportation, storage, and retail sales of fireworks and pyrotechnic articles.

We believe that the simplest approach to resolve this problem is to simply provide an exception to that rule and identify those elements of the applicable code requirements that are adversely impacted by the conflicts. Then, the requirements of NFPA 1124 would apply. This would also result in a more holistic approach to the design of the fire and life safety protection provisions for these buildings.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The BLD-FUN committee acted in agreement with the directive from the Technical Correlating Committee that NFPA 5000 must prevail where there are conflicts. Over future revision cycles, the needed co-ordination between NFPA 5000 and the referenced documents will occur.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

EXPLANATION OF ABSTENTION:

Rossberg, Wren

BALLOT NOT RETURNED:
BALLOT RESULTS:
NUMBER ELIGIBLE TO VOTE: 27
Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

8. Smoke and heat venting

5. Means of egress

Report on Comments — Copyright, NFPA


COMMENT ON PROPOSAL NO: 5000-88
RECOMMENDATION: Reconsider the proposed changes in 5000-88 taking into consideration the comment submitted by the BCDC on 5000-89 to reinstate 1.7.2.

SUBSTANTIATION: Change in the title more accurately clarifies the intent of the provisions. The term “Other Authority Having Jurisdictions” can create confusion as to the intent of the proper application of this section. Demolition was added because it should be included in the laundry list of regulated activities.

COMMITTEE MEETING ACTION: Accept in Principle
Accept Proposal 5000-88 by revise to read as follows:
1.7.2 Approvals by Other Authorities Having Jurisdiction Regulatory Agencies. The authority having jurisdiction shall have the authority to require that the laws, rules, and regulations of other regulatory agencies having jurisdiction shall be met before a building permit is issued to an applicant. The authority having jurisdiction shall have the authority to require evidence in writing to show that other regulatory agencies having jurisdiction over the design, construction, alteration, repair, equipment, maintenance, demolition, and relocation of buildings and structures in the jurisdiction have approved the proposed construction. The authority having jurisdiction shall not be held responsible for enforcement of the regulations of such other regulatory agencies unless he/she is specifically authorized by that agency’s regulations.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-65 Log #310 BLD-FUN
FINAL ACTION: Accept in Principle (1.7.2)

SUBMITTER: Christopher Laux, Office of the State Building Inspector, / Rep. NFPA Building Code Development

COMMENT ON PROPOSAL NO: 5000-88
RECOMMENDATION: Reconsider the proposed changes in 5000-88 taking into consideration the comment submitted by the BCDC on 5000-89 to reinstate 1.7.2.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this comment to reflect the addition of damage and unsafe provisions in Chapter 15.

COMMITTEE MEETING ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-89
RECOMMENDATION: Reconsider the proposed changes in 5000-89 with consideration of the changes suggested in Proposal 5000-88.

SUBSTANTIATION: Processes and procedures for documentation vary throughout the country. The current text does not reflect that the AHJ is authorized to request documentation (written, electronic, drawings, etc.) There is an expectation on the part of the public that jurisdictions maintain documentation of official decisions and said documentation is a fundamental aspect of due process. The ability of the AHJ to require the laws and regulations of other enforcement agencies be met is an important administrative provision that ensures the permitting process runs smoothly and differing agency’s concerns are integrated into the building permit process. Prime examples are environmental, fire protection, and zoning. Without the AHJ having the ability to require these approvals, a building permit may be issued which violates zoning, fire or environmental requirements. The AHJ would have no ability to ensure that these other governmental approvals have been issued. In addition, the original justification for the proposal states that, “the legal authority to issue permits and the power to refuse to issue a permit is often not granted to the person enforcing the code creating unnecessary conflicts with the structure of the jurisdiction.” This is an incorrect statement. Most AHJs enforcing the building code have the authority to issue, refuse to issue, revoke, suspend or reinstate a building permit. NFPA 5000 Section 1.7.6.5.4 provides an example of this kind of authority.

COMMITTEE MEETING ACTION: Accept in Principle
Reject Proposal 5000-89 to retain 1.7.2.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-67 Log #399 BLD-FUN
FINAL ACTION: Accept in Principle (1.7.2)


COMMENT ON PROPOSAL NO: 5000-88
RECOMMENDATION: Reconsider the proposed changes in 5000-88 taking into consideration the comment submitted by the BCDC on 5000-89 to reinstate 1.7.2.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this comment to reflect the addition of damage and unsafe provisions in Chapter 15.

COMMITTEE MEETING ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-89
RECOMMENDATION: Reconsider the proposed changes in 5000-89 with consideration of the changes suggested in Proposal 5000-88.

SUBSTANTIATION: Processes and procedures for documentation vary throughout the country. The current text does not reflect that the AHJ is authorized to request documentation (written, electronic, drawings, etc.) There is an expectation on the part of the public that jurisdictions maintain documentation of official decisions and said documentation is a fundamental aspect of due process. The ability of the AHJ to require the laws and regulations of other enforcement agencies be met is an important administrative provision that ensures the permitting process runs smoothly and differing agency’s concerns are integrated into the building permit process. Prime examples are environmental, fire protection, and zoning. Without the AHJ having the ability to require these approvals, a building permit may be issued which violates zoning, fire or environmental requirements. The AHJ would have no ability to ensure that these other governmental approvals have been issued. In addition, the original justification for the proposal states that, “the legal authority to issue permits and the power to refuse to issue a permit is often not granted to the person enforcing the code creating unnecessary conflicts with the structure of the jurisdiction.” This is an incorrect statement. Most AHJs enforcing the building code have the authority to issue, refuse to issue, revoke, suspend or reinstate a building permit. NFPA 5000 Section 1.7.6.5.4 provides an example of this kind of authority.

COMMITTEE MEETING ACTION: Accept in Principle
Reject Proposal 5000-89 to retain 1.7.2.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-66 Log #311 BLD-FUN
FINAL ACTION: Accept in Principle (1.7.2)


COMMENT ON PROPOSAL NO: 5000-88
RECOMMENDATION: Restore the language deleted in Proposal 5000-89 with consideration of the changes suggested in Proposal 5000-88.

SUBSTANTIATION: Of particular importance is the authority having jurisdiction’s responsibility to maintain documentation of official decisions and said documentation is a fundamental aspect of due process. The ability of the AHJ to require the laws and regulations of other enforcement agencies be met is an important administrative provision that permits the permitting process runs smoothly and differing agency’s concerns are integrated into the building permit process. Prime examples are environmental, fire protection, and zoning. Without the AHJ having the ability to require these approvals, a building permit may be issued which violates zoning, fire or environmental requirements. The AHJ would have no ability to ensure that these other governmental approvals have been issued. In addition, the original justification for the proposal states that, “the legal authority to issue permits and the power to refuse to issue a permit is often not granted to the person enforcing the code creating unnecessary conflicts with the structure of the jurisdiction.” This is an incorrect statement. Most AHJs enforcing the building code have the authority to issue, refuse to issue, revoke, suspend or reinstate a building permit. NFPA 5000 Section 1.7.6.5.4 provides an example of this kind of authority.

COMMITTEE MEETING ACTION: Accept in Principle
Reject Proposal 5000-89 to retain 1.7.2.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-64 Log #27 BLD-FUN
FINAL ACTION: Accept in Principle (1.5)

SUBMITTER: Technical Correlating Committee on Building Code Development

COMMENT ON PROPOSAL NO: 5000-77
RECOMMENDATION: Give consideration to Thornberry’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: NFPA staff has been able to produce an accurate draft despite the missing underscores in the ROP.
SUBSTANTIATION: Change in the title more accurately clarifies the intent of the provisions. The term “Other Authority Having Jurisdictions” can create confusion as to the intent of the proper application of this section. Demolition was added because it should be included in the laundry list of regulated activities.

COMMITTEE MEETING ACTION: Accept in Principle
Accept Proposal 5000-88 by revise to read as follows:

1.7.2 Approvals by Other Authorities Having Jurisdiction Regulatory Agencies.
The authority having jurisdiction shall have the authority to require that the laws, rules and regulations of #4 other regulatory agencies having jurisdiction shall be met before a building permit is issued to an applicant. The authority having jurisdiction shall have the authority to require evidence in writing to show that other regulatory agencies having jurisdiction over the design, construction, alteration, repair, equipment, maintenance, demolition, and relocation of buildings and structures in the jurisdiction have approved the proposed construction. The authority having jurisdiction shall not be held responsible for enforcement of the regulations of such other regulatory agencies unless the authority specifically authorized to enforce that agency’s regulations.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

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SUBMITTER: Christopher Lux, Office of the State Building Inspector, / Rep. NFPA Building Code Development
COMMENT ON PROPOSAL NO: 5000-89
RECOMMENDATION: Restore the language deleted in Proposal 5000-89 with consideration of the changes suggested in Proposal 5000-88.

SUBSTANTIATION: Processes and procedures for documentation vary throughout the country. The current text does not require results to be in writing but gives the AHJ the authority to request documentation (written, electronic, drawings, e.g.) There is an expectation on the part of the public that jurisdictions maintain documentation of official decisions and such documentation is a fundamental aspect of due process. The ability of the AHJ to require that the laws and regulations of other enforcement agencies have been approved is an important administrative provision that ensures the permitting process runs smoothly and differing agency’s concerns are integrated into the building permit process. Prime examples are environmental, fire protection, and zoning. Without the AHJ having the ability to require these approvals, a building permit may be issued which violates zoning or environmental requirements. The AHJ would have no ability to ensure that these other governmental approvals have been issued. In addition, the original justification for the proposal states that, “the legal authority to issue permits and the power to refuse to issue a permit is often not granted to the person enforcing the code creating unnecessary conflicts within the structure of the jurisdiction.” This is an incorrect statement. Most AHJs enforcing the building code have the authority to issue, refuse to issue, revoke, suspend or reissue a building permit. NFPA 5000 Section 1.7.6.5.4 provides an example of this kind of authority.

COMMITTEE MEETING ACTION: Accept in Principle

Reject Proposal 5000-89 to retain 1.7.2.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

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COMMENT ON PROPOSAL NO: 5000-93
RECOMMENDATION: Reconsider the original proposal.

SUBSTANTIATION: The approach in Log 1-10 by the UFC TC appears to address the concerns of the BLD-FUN TC regarding board latitude. Adoption of a similar approach by 5000 would create consistency between the two documents. Both NFPA 5000 and NFPA 1 should have similar language regarding the authority and restrictions placed on the board of appeals. Otherwise, an action by the board may comply with one document, but not the other. Reconsideration of this item would be consistent with the action taken in Proposal 5000-98.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See action on Comment 5000-70 which retains the rejection of Proposal 5000-96.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

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COMMENT ON PROPOSAL NO: 5000-96
RECOMMENDATION: Reconsider Proposal 5000-96 based on the action taken in Log 1-10 by the Uniform Fire Code Technical Committee.

SUBSTANTIATION: The approach in Log 1-10 by the UFC TC appears to address the concerns of the BLD-FUN TC regarding board latitude. Adoption of a similar approach by 5000 would create consistency between the two documents. Both NFPA 5000 and NFPA 1 should have similar language regarding the authority and restrictions placed on the board of appeals. Otherwise, an action by the board may comply with one document, but not the other. Reconsideration of this item would be consistent with the action taken in Proposal 5000-98.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The last sentence of 1.7.3.7.1 adequately code applicable at the time the construction, that should be deemed an unsafe building and trigger further evaluation.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

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SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-59
RECOMMENDATION: Modify 1.7.5.3.1.1(5) as follows:
(5) Noncompliant with the provisions of applicable codes applicable at time of construction

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this comment to improve the clarity of the section on unsafe conditions. In reality, Chapter 15 allows existing buildings to not comply with many of the provisions of this Code. However, if the building is noncompliant with the code applicable at the time of construction, that should be deemed an unsafe building and trigger further evaluation.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

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SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-59
RECOMMENDATION: Modify 1.7.5.3.1.1(5) as follows:
(5) Noncompliant with the provisions of applicable codes applicable at time of construction

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this comment to improve the clarity of the section on unsafe conditions. In reality, Chapter 15 allows existing buildings to not comply with many of the provisions of this Code. However, if the building is noncompliant with the code applicable at the time of construction, that should be deemed an unsafe building and trigger further evaluation.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS
The Task Group on Structural Rehabilitation developed this comment to better coordinate Chapter 1 and Chapter 15. This language directs the user to Chapter 15, where rehabilitation of damaged or unsafe buildings has been recommended for consideration. From that chapter, the user will be directed to other portions of the Code, as required.

Please note that the Task Group has developed a separate comment which adds requirements for structurally damaged and unsafe buildings in Chapter 15.

SUBMISSION: The Task Group on Structural Rehabilitation developed this comment to better coordinate Chapter 1 and Chapter 15. This language directs the user to Chapter 15, where rehabilitation of damaged or unsafe buildings has been recommended for consideration. From that chapter, the user will be directed to other portions of the Code, as required.

Please note that the Task Group has developed a separate comment which adds requirements for structurally damaged and unsafe buildings in Chapter 15.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Modify 1.7.5.3.2 Authority of the Authority Having Jurisdiction Regarding Unsafe Buildings or Buildings that Are a Fire Hazard. All buildings deemed to be unsafe or to be a fire hazard by the authority having jurisdiction, based on 1.7.5.3.1, are hereby declared to be public nuisances and shall be demolished and removed from the premises concerned or shall be made safe and sanitary in accordance with Chapter 15 of this Code, a manner acceptable to the authority having jurisdiction and as provided in Section 1.7 and by other applicable laws, rules, and regulations of the jurisdiction.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this comment to better coordinate Chapter 1 and Chapter 15. This language directs the user to Chapter 15, where rehabilitation of damaged or unsafe buildings has been recommended for consideration. From that chapter, the user will be directed to other portions of the Code, as required.

Please note that the Task Group has developed a separate comment which adds requirements for structurally damaged and unsafe buildings in Chapter 15.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.
Report on Comments — Copyright, NFPA

5000-79 Log #316 BLD-FUN  FINAL ACTION: Reject
(1.7.6.6.1.4)

COMMENT ON PROPOSAL NO: 5000-120
RECOMMENDATION: Reconsider the original proposal.
SUBSTANTIATION: We agree with the committee’s statement indicating that “the AHJ needs to be able to require inspections…” That is why we - as the AHJ - prefer this enforceable mandatory language. As currently written, the text is permissible. The new sections are important because pre-manufactured products come from off-site and it is difficult for the AHJ to approve the materials. The AHJ will depend on third party approval. This provision is important for proper regulation of materials. We would agree that proposed paragraph (b) would not be necessary if item 5000-124 were accepted.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The requirements recommended in Proposal 5000-120 are not representative of the quality assurance plan requirements of Chapter 40. Note that 1.7.1.2 allows the AHJ to delegate the inspection to others (for example, third parties). As stated in the committee statement for the rejection of the proposal: “The AHJ needs to be able to require inspections where considered necessary.”
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-80 Log #317 BLD-FUN  FINAL ACTION: Reject
(1.7.6.6.2)

COMMENT ON PROPOSAL NO: 5000-124
RECOMMENDATION: Reconsider the original proposal substituting the term “assemblies” for “structural component” in section 1.7.6.2. 
SUBSTANTIATION: Section 3.3.421 does in fact define “prefabricated”. The term “assemblies” is used throughout the code. “Structural element” is a term defined in Section 3.149.3.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The existing text provides the needed latitude. The text suggested in the proposal is not an improvement. RDPs should not be asked to “certify” anything.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-81 Log #318 BLD-FUN  FINAL ACTION: Accept in Principle
(1.7.6.7)

COMMENT ON PROPOSAL NO: 5000-128
RECOMMENDATION: Reconsider the original proposal.
SUBSTANTIATION: As Code Enforcement officials we are concerned about the extension of responsibility to housekeeping officials. This issue is more properly addressed in a Property Maintenance Code.
COMMITTEE MEETING ACTION: Accept in Principle
Accept Proposal 5000-128 to delete 1.7.6.7 related to cleanup of site.
COMMITTEE STATEMENT: The action should meet the submitter’s intent.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 20 Negative: 1
BALLOT NOT RETURNED: 2 ALLEN, WATTS
EXPLANATION OF NEGATIVE: CHENG: This provision is needed either in the body of the code or in the annex. This will provide the AHJ with some leverage to get the task completed. Removal of construction waste materials (rubbish, debris, construction sheds) will also help to prevent injury and ensure that the means of egress (exit discharge) is properly maintained.

5000-82 Log #28a BLD-FUN  FINAL ACTION: Accept in Principle
(Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-131
RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: The actions taken by BLD-FUN (in the ROP, and on Comments 5000-108 through 5000-110, 5000-117, and 5000-123) adequately update the referenced publications edition dates.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-83 Log #28b BLD-BLC  FINAL ACTION: Accept in Principle
(Chapter 2)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revisied from ACCEPT to “ACCEPT IN PRINCIPLE- See the committee action on 5000-101 and 5000-124 where the TCC action was implemented.”
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-131
RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-84 Log #28c BLD-FIR  FINAL ACTION: Accept in Principle
(Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-131
RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: No specific action required. Also see committee actions on Comments 5000-102, 5000-118 and 5000-125.
NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-85 Log #28d BLD-MEA  FINAL ACTION: Accept in Principle
(Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-131
RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
In 2.3.1.6, update the BHMA A156.19 edition date from 1997 to 2002. In 2.3.41, update the edition date of UL 924 from “1995” to “1995, Revised 2001”.

COMMITTEE STATEMENT: The action should meet the TCC’s intent.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB abstains on this NFPA 5000 action.

5000-86 Log #28e BLD-FUR FINAL ACTION: Accept in Principle (Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
Update the editions of the referenced documents as follows:
ASTM E 84: 2004
ASTM E 648: 2003
ASTM E 1352: 2002
ASTM E 1353: 2002
ASTM E 1537: 2002a
ASTM E 1590: 2002
ASTM D 2859: 2004
UL 1975: 1996

COMMITTEE STATEMENT: Editorial updates.

NUMBER ELIGIBLE TO VOTE: 11
BALLOT RESULTS: Affirmative: 11

5000-87 Log #28g BLD-AXM FINAL ACTION: Accept in Principle (Chapter 2)

TCC Action: The Technical Correlating Committee (TCC) directs that the action of ACCEPT IN PRINCIPLE be retained and that the following additional revisions be made to section 16.4.5.6.2.4: Add UL 263 to this section and to the list of referenced documents in Chapter 2.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
Revise as follows:

16.4.5.6.2.4 Fire Test. A sample curtain with a minimum of two vertical seams shall be subjected to the standard fire test specified in NFPA 251, Standard Methods of Test of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials; as applicable to nonbearing walls and partitions for a period of 30 minutes. ... 16.4.5.6.2.5 Smoke Test. Curtain fabrics shall have a smoke density of not greater than 25 where tested in accordance with NFPA 251, Standard Method of Test for Surface Burning Characteristics of Building Materials, ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, or UL 723, Standard Test for Surface Burning Characteristics of Building Materials. The curtain fabric shall be tested in the condition in which it is to be used. In 2.3.1.4, update the edition date for ASTM E 84 from 2001 to 2004. In 2.3.41, add UL 723, showing the edition date as 2003.

COMMITTEE STATEMENT: Chapter 16 currently references 2 ASTM standards [ASTM F 851-1987 and ASTM D 2898-1994(1999)] for which the edition date shown in 2.3.1.4 is correct and current. Chapter 16 also references NFPA documents for which it is NFPA policy to update automatically to the most current edition.

ASTM and UL equivalents of NFPA documents have been added by the committee action for completeness.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-88 Log #28h BLD-DET FINAL ACTION: Accept in Principle (Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-DET.

COMMITTEE STATEMENT: Chapter 21 references ASTM F 1577 for which the edition date of 2001 shown in 2.3.14 is correct. All other documents referenced in Chapter 21 are NFPA standards for which it is NFPA policy to update automatically to the most current edition.

NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 13
BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-89 Log #28i BLD-END FINAL ACTION: Accept in Principle (Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-END.

COMMITTEE STATEMENT: The only documents referenced in Chapters 17 and 18 are NFPA standards for which it is NFPA policy to update automatically to the most current edition.

NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

5000-90 Log #28j BLD-HEA FINAL ACTION: Accept in Principle (Chapter 2)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-HEA.

COMMITTEE STATEMENT: The only documents referenced in Chapters 19 and 20 reference are NFPA documents. It is NFPA policy to reference automatically the most current edition of NFPA documents.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7 BROOKS, FISHEBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-25
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-131
RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

5000-93 Log #28m BLD-MER FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-131
RECOMMENDATION: 1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.
2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.
3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

5000-26


USDOC PS 1, U.S. Product Standard for Construction and Industrial Plywood, 1995. [Chapter 44] 44.1.1.2.3, [Chapter 45] 45.5.1.4.1

USDOC PS 2, Performance Standard for Wood-based Structural-Use Panels, 1992. [Chapter 44] 44.1.1.2.3, [Chapter 45] 45.5.7.1, 45.5.14.1

SUBSTANTIATION: This document uses Comment 5000-100 as a base, adds updates from ACI, AF&PA and ASCE, and folds in the following accepted Chapter references: Comment 5000-98, 5000-113, 5000-114, 5000-116, 5000-121, 5000-719, and 5000-720. In addition, to further streamline the recommendation, the Technical Committee eliminated those documents that were not modified and those that were not referenced in Building Materials Technical Committee’s chapters.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 19 BALLOT RESULTS: Affirmative: 17 BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-98b Log #CC14 BLD-STR FINAL ACTION: Accept (Chapter 2)

SUBMITTER: Technical Committee on Structures and Construction COMMENT ON PROPOSAL NO: 5000-131 RECOMMENDATION: Modify Chapter 2 as follows: 2.3 Other Publications.


2.3.3 ACI Publications, American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333.

ACI 530/ASCE 5/TMS 402, Building Code Requirements for Masonry Structures, 2005. [Chapter 35] 35.1.2.3(2), 35.1.2.8.4, [Chapter 36] 36.6.2.1, 36.6.2.2, 36.6.2.3.1, 36.6.2.3.2, 36.9.4.1, [Chapter 40] 40.3.9, [Chapter 43] 43.4.3, 43.4.4, 43.8.1, 43.8.2, [Chapter 45] 45.6.10(4)

ACI 530/ASCE 6/TMS 602, Specification for Masonry Structures, 2005. [Chapter 32] 32.8.3.2.3, [Chapter 36] 36.6.2.6(4)(b), [Chapter 43] 43.6, 43.7

2.3.7 AISI Publications, American Iron and Steel Institute, 1401 Connecticut Ave, Suite 705, 17th Street NW, Suite 1300, Washington, DC 20036.

AISI-CPSD, General, Standard for Cold-Formed Steel Framing—General Provisions, 2004. [Chapter 35] 35.1.2.8.3(3), [Chapter 44] 44.7.1

AISI-Prescriptive, Standard for Cold-Formed Steel Framing—Prescriptive Method for One and Two Family Dwellings, 2001, including 2004 Supplement, [Chapter 35] 35.1.2.3(3), [Chapter 44] 44.7.4

2.3.11 ASCE Publications, American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191-4400.

ASCE/SEI 3, Standard for the Structural Design of Composite Slabs, 1991, [Chapter 35] 35.1.2.8.3(4), [Chapter 41] 41.2.2.1.2, [Chapter 44] 44.6.2

ASCE/SEI 7, Minimum Design Loads for Buildings and Other Structures, 2002. [Chapter 3] 3.3.49, 3.3.95.1, 3.3.11.7, 3.3.342, 3.3.380, 3.3.475, 3.3.477, 3.3.493, 3.3.526.1, 3.3.526.2, 3.3.530.10, [Chapter 5] 5.3.1.1, Table 5.5.3.1, Table 5.5.3.2, Table 5.5.3.3, [Chapter 35] 35.1.2.1, 35.1.2.4, 35.1.2.8.1, 35.2, 35.2.3, 35.2.9.13, 35.2.9.20, 35.2.21, 35.2.23, 35.2.26, 35.2.28, 35.2.29, 35.2.30.1, 35.2.30.2, Table 35.3, 35.6.2.1, 35.6.2.2, 35.6.2.3, 35.6.3.1, 35.6.5.1, 35.6.6, 35.6.7, 35.7.2, 35.7.3.1, 35.7.3, 35.8.1.2, 35.8.2, 35.8.3.1, 35.8.3.2, 35.8.4, 35.8.5, 35.9.1.3, 35.9.1.3.2(2), 35.9.1.2, 35.9.2.1, 35.9.2.2, 35.9.3, 35.9.4.2, 35.10.1, 35.10.2, 35.10.3, 35.10.4, 35.10.5, 35.10.6, 35.10.7, 35.10.8, 35.10.9, 35.10.10, 35.10.12, 35.10.13, 35.14.2.2, 35.15.1, 35.15.2, [Chapter 36] 36.1.1, 36.6.2.4, 36.6.2.5, 36.6.2.6, [Chapter 38] 38.4.1, [Chapter 39] 39.2.10, [Chapter 41] 41.2.3.3, 41.5, [Chapter 44] 44.2.2.2, 44.2.2.3, 44.2.4.2, 44.2.4.4, 44.5.3, 44.8.3.2(1), 44.8.3.7

ASCE/SEI 8, Specification for the Design of Cold-Formed Stainless Steel Structural Members, 2002. [Chapter 35] 35.1.2.8.3(5), [Chapter 44] 44.6.1.2
Report on Comments — Copyright, NFPA


36.5.4.2.3.1, [Chapter 38] Table 38.1.3.1, [Chapter 45] 45.5.11.1(1), 45.6.9.6.2, 45.6.9.6.10(2), 45.6.9.6.15

2.3.20 FM Global, FMRC Publications. FM Global Factory Mutual Research Corporation, Standards Laboratories Department, 1151 Boston-Providence Turnpike, Norwood, MA 02062.

FM 4435, Approval for Standard for Roof Perforating Flashing, 2004. [Chapter 38] 38.9.3.6.1, 38.9.6.6.1, 38.9.7.6.1, 38.9.8.6.1, 38.9.11.6.1, 38.9.12.6.1

FM 4450, Approval for Standard for Class I Insulated Steel Deck Roofs, 1989. [Chapter 38] 38.3.2(1), [Chapter 48] 48.3.2.3(3), 48.3.3.4(5)(b)(i)

2.3.21 FRSA/RTT/IFMA Publication. Florida Roofing, Sheet Metal and Air Conditioning Contractors Association, 4111 Metric Drive, Winter Park, FL 32792.

073201, Concrete and Clay Roof Tile Installation Manual, third edition, 1998 with June 2001 Addendum. [Chapter 38] 38.9.4.8

2.3.27 NCMA Publication. National Concrete Masonry Association, 13750 Sunrise Valley Drive, Herndon, VA 20171.


2.3.29 NSPI Publications. National Spa and Pool Institute, 211 Eisenhower Avenue, Alexandria, VA 22314.

ANSI/NSPI-6, Standard for Residential Portable Spas, 1999. [Chapter 32] 32.8.3.4(6)

2.3.38 SPRI Publications. SPRI, 200 Reservoir Street, Suite 309A, Needham, MA 02494.


ANSI/TIA/EIA-222-F: Structural Standards for Steel Antenna Towers and Antenna Structures, 1996. [Chapter 35] 35.9.1.3(2)(a)

2.3.41 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.


UL 1897, Standard for Safety for Uplift Tests for Roof Covering Systems, 2002. [Chapter 38] 38.9.3.8, 38.9.6.8, 38.9.7.8.1, 38.9.7.8.2, 38.9.8.8, 38.9.12.8.1.1, 38.9.12.8.1.2


FEMA 356, Preliminary and Commentary for Seismic Rehabilitation of Buildings, 2000. [Chapter 15] 15.1.2.2.1, 15.1.2.3.1

SUBSTANTIATION: This document uses Comment 5000-99 as a base, adds updates from ACI, ASCE and NCMA, and folds in the following accepted Chapter 2 references: Comment 5000-106, 5000-107, 5000-111, 5000-112, 5000-119, 5000-126, 5000-392, and 5000-394. In addition, to further streamline the recommendation, the Technical Committee eliminated those documents that were not modified and were not referenced in Structures and Construction Technical Committee’s chapters.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

5000-98c Log #CC352 BLD-BSY FINAL ACTION: Accept (Chapter 2)

TCC Action: The Technical Correlating Committee (TCC) notes that the listing of two editions of ASTM F 1292 is accurate as Comment 5000-359a on Chapter 12 includes an extracted provision (see 12.45.14.2.6.2) from ADA/ABA that permits compliance with either edition.

SUBMITTER: Technical Committee on Building Systems

COMMENT ON PROPOSAL NO: 5000-155

RECOMMENDATION: Add the following references to Chapter 2 in proper order:


ASTM F 1292-04 Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment

ASTM F 1487-01 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use


Update the editions of the following references in Chapter 2:


SUBSTANTIATION: The committee reviewed all the comments relating to Chapter 12 and has addressed them in one way or another through 5000-359a (Log #CC351) 5000-98c (Log #CC352) and 5000-126a (Log #CC353).

The committee has used all of the scoping requirements from ADA/ABA - AG 7-23-2004, the technical requirements of ICC/ANSI A117.1-2003 with the exception of 605.2 that has been replaced by the text from 605.2 of ADA/ABA -AG 7-23-2004 and the technical requirements contained in ADA/ABA-AG 7-23-2004 not contained in A117.1 -2003.

Committee Proposal 5000-98c (Log #CC352) added new references to Chapter 2.

Committee Proposal 5000-126a (Log #CC353) added new and/or revised definitions to Chapter 3 appropriate for the new Chapter 12.

In addition, The committee rescinded it’s prior vote to ask that the Standards Council create a new TC on Accessibility based on the fact that there is now an Accessibility advisory committee to the NFPA President.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BEECIAERD

5000-99 Log #272a BLD-STR FINAL ACTION: Accept in Principle (2.3)

SUBMITTER: Peter J. Willsie, GE Global Asset Protection Services

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: Revise text to read as follows:

2.3 Other Publications.


AA SAS 30, Aluminum Construction Manual Series, Section 1, Specifications for Aluminum Structures, 1986; [Chapter 35] 35.1.2.8.5


2.3.5 AHA Composite Panel Association Publications. Composite Panel Association, Composite Wood Council, 18922 Premiere Court, Gaithersburg, MD 20879-1574 American Hardboard Association, 1210 West Northwest Highway, Palatine, IL 60067.

ANSI/AHA A135.4, Basic Hardboard, 2004. [Chapter 45] 45.5.9.4

ANSI/AHA A135.5, Prefinished Hardboard Paneling, 2004. [Chapter 45] 45.5.9.3, 45.5.14.2

ANSI/AHA A135.6, Hardboard Siding, 1998. [Chapter 45] 45.5.9.1
2.3.15 AWPA Publications. American Wood Preservers Association, P.O. Box 5690, Granbury, TX 76049.

C1, Standard for Preservative Treatment of All Timber Products by Pressure Processes, 2003 2000. [Chapter 36] 36.5.4.2.3.1, [Chapter 45] 45.5.11.1(1)

C2, Standard for the Preservative Treatment of Lumber, Timber, Bridge Ties, and Mine Ties by Pressure Processes, 2002 2000. [Chapter 36] 36.5.4.2.3.1, [Chapter 38] Table 38.1.3.1, [Chapter 45] 45.5.11.1(1), 45.6.9.6.2, 45.6.9.6.10(2), 45.6.9.6.15

C3, Piles — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C4, Poles — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C9, Plywood — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1), 45.6.9.6.2, 45.6.9.6.10(2), 45.6.9.6.15

C14, Wood for Highway Construction — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C15, Wood for Commercial-Residential Construction Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C16, Wood Used on Farms — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C22, Lumber and Plywood for Permanent Wood Foundations — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C23, Round Poles and Posts Used in Building Construction — Preservative Treatment by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

C24, Sawn Timber Piles Used for Residential and Commercial Building, 2003 2000. [Chapter 45] 45.5.11.1(1)


C31, Lumber Used Out of Contact with the Ground and Continuously Protected from Liquid Water—Treatment by Pressure Processes, 2002 2000. [Chapter 45] 45.5.11.1(1)

C33, Standard for Preservative Treatment of Structural Composite Lumber by Pressure Processes, 2003 2000. [Chapter 45] 45.5.11.1(1)

M4, Standard for the Care of Preservative-Treated Wood Products, 2002 2000. [Chapter 45] 45.5.11.1(1)

PI/P13, Standard for Creosote Preservative, 2001. [Chapter 45] 45.5.11.1(2)

P2, Standard for Creosote Solutions, 2001. [Chapter 45] 45.5.11.1(2)

P5, Standard for Waterborne Preservatives, 2002 2000. [Chapter 45] 45.5.11.1(2)

P8, Standard for Oil-borne Preservatives, 2003 2000. [Chapter 45] 45.5.11.1(2)

P9, Standards for Solvents and Formulations for Organic Preservative Systems, 2003 2000. [Chapter 45] 45.5.11.1(2)

2.3.17 CGSB Publications. Canadian General Standards Board, CGSB Sales Centre, Ottawa, Canada K1A 1G6.

37-GP-52M, Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric, 1984. [Chapter 38] Table 38.9.12.1, 38.9.12.9.1, [Chapter 45] 45.5.17.2 [5000-967 (Log#CP500)]

CAN/CGSB-37.54, Polychloride Roofing and Waterproofing Membrane, 1995. [Chapter 38] Table 38.9.12.1, 38.9.12.9.1 [5000-967 (Log#CP500)]

37-GP-56M, Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing, 1985. [Chapter 38] Table 38.9.12.1, 38.9.12.9.1 [5000-967 (Log#CP500)]

2.3.18 DASMA Publication. Door & Access Systems Manufacturers Association, International, 1300 Summer Avenue, Cleveland, OH 44115-2851.

ANSI/DASMA 107, Room Fire Test Standard for Garage Doors Using Foam Plastic Insulation, 1997. [Chapter 48] 48.3.4.7(d)

2.3.19 EIMA Publication. EIFS Industry Members Association, 3000 Corporate Center Drive, Suite 270, Morrow, GA 30260.

ANSI/EIMA 99A, Exterior Insulation and Finish Systems (EIFS), 2001. [Chapter 37] 37.5.2.2, 37.5.4.1, [Chapter 40] 40.4.2 [5000-345 (Log#574)], [5000-955 (Log#770)].

2.3.21 FRSA/RTI/NTRMA Publication. Florida Roofing, Sheet Metal and Air Conditioning Contractors Association, 4111 Metric Drive, Winter Park, FL 32792.

07320/1, Concrete and Clay Roof Tile Installation Manual, third edition, 1998 with June 2001 Addendum. [Chapter 38] 38.9.4.8 38.4.3.1 [5000-967 (Log#CP500)].

2.3.23 HPVA Publication. Hardwood Plywood and Veneer Association, P.O. Box 2789, Reston, VA 20195.


2.3.24 IAPMO Publications. International Association of Plumbing and Mechanical Officials, 2001 Walnut Drive South, Walnut, CA 91789.

UMC, Uniform Mechanical Code, 2003 2000. [Chapter 32] 32.2.1.5.2, [Chapter 34] 34.1.1 Exception 4, 34.3.2.6.2, 34.3.2.6.8, 34.3.2.6.9, 34.37.3.8.1, [Chapter 50] 50.1(a), [Chapter 54] 54.7.2(C)

UPC, Uniform Plumbing Code, 2003 2000. [Chapter 34] 34.3.2.9.3(1), [Chapter 36] 36.8.3.2, [Chapter 38] 38.6.1.3, 38.6.1.4, 38.6.3.14+11.2.3, 38.11.4.2, 38.11.4.4, [Chapter 53] 53.14(4) [5000-967 (Log#CP500)].

2.3.25 ICC Publications. International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041.

IRC, International Residential Code, 2003 2000, as modified by the 2001 and 2002 supplements. [Chapter 35] 35.1.2.3(6) [5000-945 (Log#CP511)].

2.3.26 NAAMM Publication. National Association of Architectural Metal Manufacturers, 8 South Michigan Avenue, Suite 1000, Chicago, IL 60603.


2.3.29 NSPI Publications. National Spa and Pool Institute, 211 Eisenhower Avenue, Alexandria, VA 22314.

ANSI/NSPI-1, Standard for Public Swimming Pools, 2003 1999. [Chapter 32] 32.8.3.4(1), 32.8.4.2

ANSI/NSPI-2, Standard for Public Spas, 1999. [Chapter 32] 32.8.3.4(2)

ANSI/NSPI-3, Standard for Permanently Installed Residential Spas, 1999. [Chapter 32] 32.8.3.4(3)


ANSI/NSPI-6, Standard for Residential Potable Spas, 1999. [Chapter 32] 32.8.3.4(6)

ANSI/NSPI-8, Model Barrier Code for Residential Swimming Pools, Spas, and Hot Tubs, 1996. [Chapter 32] 32.8.4.1 [5000-157 (Log#CP507)].

2.3.33 RMI Publication. Rack Manufacturers Institute, 8720 Red Oak Blvd., Suite 201, Charlotte, NC 28217.

ANSI MH10.8.3, Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks, 2002 1997. [Chapter 44] 44.5.1.4, 44.5.2 [5000-160 (Log#511)].
2.3.34 SAE Publication. Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.

SAE J78, Standard for Steel Self-Drilling Tapping Screws, 1998. [Chapter 44] 44.8.1.2.2(4)


SSTD-10, Standard for Hurricane-Resistant Construction, 1999. [Chapter 35] 35.1.2.3(5)

2.3.37 SPC Publication. Southern Pine Council, P.O. Box 641700, Kenner, LA 70064-1700.


2.3.38 SPRI Publications. SPRI, 200 Reservoir Street, Suite 309A, Truss Plate Institute, Inc., 583 D’Onofrio Drive, Suite 300, Madison, WI 53719.


2.3.40 TPI Publication. Truss Plate Institute, Inc., 583 D’Onofrio Drive, Suite 200, Madison, WI 53719.


USDOC PS 1, U.S. Product Standard for Construction and Industrial Plywood, 1995. [Chapter 44] 44.8.1.2.2(3), [Chapter 45] 45.5.7.1, 45.5.14.1

USDOC PS 2, Performance Standard for Wood-based Structural-Use Panels, 1992. [Chapter 44] 44.8.1.2.2(3), [Chapter 45] 45.5.7.1, 45.5.14.1

USDOC PS 20, American Softwood Lumber Standard, 1999. [Chapter 3] 3.3.329, 3.3.3.362, [Chapter 45] 45.2.4, 45.2.5, 45.5.2, 45.5.14.1

CPSC, 16 CFR 1201, Safety Standard for Architectural Glazing Materials. [Chapter 46] 46.5.1(1), 46.5.1(2), 46.5.1.3.2, 46.6.1(3), 46.7.2.1, 46.7.3

2.3.43 WRI/CRSI Publication. Wire Reinforcement Institute, Institute, Inc., 583 D’Onofrio Drive, Suite 200, Madison, WI 53719.

Design of Slab-on-Ground Foundations, 1996. [Chapter 36] 36.4.1.4

SUBSTANTIATION: The publication dates need to be updated.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Recommendation on Comment 5000-98a (Log #CC102). See Committee Comment 5000-98a (Log #CC102) for further information.

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-101 Log #272c BLDC-BLC  FINAL ACTION: Accept in Principle (2.3)

5000-41
<table>
<thead>
<tr>
<th>National Fire Protection Association Publication</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>ASTM D 4586, Standard Specification for Asphalt-Roof Cement, Asbestos-Free, 2000</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.9.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 4601, Standard Specification for Asphalt-Coated Glass-Fiber Base Sheet Used in Roofing, 1998</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.6.1, Table 38.9.9.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 4637, Standard Specification for EPDM Sheet Used in a Single-Ply Roof Membrane, 2004</td>
<td>[Chapter 38] Table 38.9.12.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 4889, Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing, 2004</td>
<td>[Chapter 38] 38.9.2.4.2, 38.9.4.4.2, 38.9.7.4.2, 38.9.8.4.2, 38.9.9.4.2, 38.9.10.4.2, 38.9.13.4.2, 38.9.14.4.2, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 4897, Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing, 2001</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.6 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 4990, Standard Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing, 1997a</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 5516, Standard Test Method for Evaluating the Flexural Properties of Fire-Resistant Treated Softwood Plywood Exposed to Elevated Temperatures, 2003</td>
<td>[Chapter 45] 45.5.15.2.2.1(1), 45.5.15.2.2.1(2)</td>
</tr>
<tr>
<td>ASTM D 5643, Standard Specification for Coal Tar Roof Cement, Asbestos Free, 1994 (2000) el</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
</tr>
<tr>
<td>ASTM D 5664, Standard Test Method for Evaluating the Effects of Fire-Resistant Treatments and Elevated Temperatures on Strength Properties of Fire-Resistant Treated Lumber, 2002</td>
<td>[Chapter 45] 45.5.15.2.2.2(1), 45.5.15.2.2.2(2)</td>
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<tr>
<td>ASTM D 5665, Standard Specification for Thermoplastic Fabrics Used in Cold-Applied Roofing and Waterproofing, 1999a</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<td>ASTM D 5726, Standard Specification for Thermoplastic Fabrics Used in Hot-Applied Roofing and Waterproofing, 1998</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6083, Standard Specification for Liquid Applied Acrylic Coating Used in Roofing, 1997a</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.5.1, Table 38.9.11, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6621, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements, 2000a</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.6.1, Table 38.9.7.3.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6623, Standard Specification for styrene butadiene-styrene (SBS) modified bituminous sheet with a factory applied metal surface, 2000</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.6.1 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6805, Standard Practice for Calculating Bending Strength Design Adjustment Factors for Fire-Resistant-Treated Plywood Roof Sheathing, 2002e1</td>
<td>[Chapter 45] 45.5.15.2.2.1(2)</td>
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<tr>
<td>ASTM D 6830, Standard Specification for Asphalt Roll Roofing (Organic Felt), 2003</td>
<td>[Chapter 38] Table 38.9.3.1, Table 38.9.9.1, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6694, Standard Specification for Liquid-Applied Silicone Coating Used in Spray Polyurethane Foam Roofing, 2001</td>
<td>[Chapter 38] Table 38.9.5.1, Table 38.9.11, Table 38.11.4.5 [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6754, Standard Specification for Ketone Ethylene Ester Based Sheet Roofing, 2002</td>
<td>[Chapter 38] Table 38.9.12.1, [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6757, Standard Specification for Inorganic Sheet Roofing, 2003</td>
<td>[Chapter 38] 38.9.2.4.2, 38.9.4.4.2, 38.9.7.4.2, 38.9.8.4.2, 38.9.10.4.2, 38.9.13.4.2, 38.9.14.4.2 [5000-984] [Log#E5590] [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM D 6841, Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-Resistant-Treated Lumber, 2003</td>
<td>[Chapter 45] 45.5.15.2.2.2 [5000-1048 (Log#CP90)]</td>
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<tr>
<td>ASTM D 6878, Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing, 2003</td>
<td>[Chapter 38] Table 38.9.12.1, [5000-967 (Log#CP500)]</td>
</tr>
<tr>
<td>ASTM E 108, Standard Test Methods for Fire Tests of Roof Coverings, 2004</td>
<td>[Chapter 45] 38.9.11.1 [5000-975 (Log#CP70)]</td>
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<tr>
<td>ASTM E 605, Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members, 1993</td>
<td>[Chapter 40] 40.5.1.2, 40.5.2.2, 40.5.3.2, 5000-1022 [Log#CP515]</td>
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<tr>
<td>ASTM E 736, Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members, 2000</td>
<td>[Chapter 40] 40.5.1.2, 40.5.3.2, 40.5.4.2, 5000-1022 [Log#CP515]</td>
</tr>
<tr>
<td>ASTM E 1300, Standard Practice for Determining Load Resistance of Glass in Buildings, 2004</td>
<td>[Chapter 46] 46.10.1.1, 46.10.1.2, 46.10.2.3, Table 46.10.2, 46.10.3.1, 46.10.3.2, 46.10.3.2.1, 46.10.3.2.2, 46.10.3.3 [5000-1051] [Log#CP765]</td>
</tr>
<tr>
<td>ASTM E 1592, Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference, 2001</td>
<td>[Chapter 38] Table 38.9.7.3.1, Table 38.9.7.8.2, [5000-967 (Log#CP500)]</td>
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<tr>
<td>ASTM F 547, Standard Terminology for Nails for Use with Wood and Wood Base Materials, 2001</td>
<td>[Chapter 47] 47.2.4.2(4), 47.2.4.2(2)</td>
</tr>
<tr>
<td>ASTM F 1667, Specification for Driven Fasteners: Nails, Spikes, and Staples, 2003</td>
<td>[Chapter 38] 38.9.2.7, Table 38.11.4, [Chapter 45] 45.5.17.2 [5000-967 (Log#CP500)]</td>
</tr>
</tbody>
</table>

2.3.15 AWPA Publications, American Wood Preservers Association, P.O. Box 5690, Granbury, TX 76049.
5000-104 Log #259c BLD-STR FINAL ACTION: Accept in Principle (2.3.3)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE,” Revise the reference to recognize the 2005 edition of ACI 318.” The TCC was provided with a summary of changes of the 2005 edition of ACI 318. This was not available during the ROC preparation meeting of BLD-STR but the final document was available prior to the TCC meeting.

SUBMITTER: Joseph J. Messersmith, Jr., Portland Cement Association

COMMENT ON PROPOSAL NO: 5000-133

RECOMMENDATION: Accept portion of proposal that updates ACI 318 and indicate new edition as being ACI 318-05.

SUBSTANTIATION: ACI 318-05 will be published in January 2005; therefore, the change from ACI 318-02 to ACI 318-05 needs to be made so NFPA 5000 references the latest edition of the document.

COMMITTEE MEETING ACTION: Rejected

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since ACI 318-05 will not be available until January 2005. However, if ACI 318-05 was published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: Jones: see my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-105 Log #29 BLD-MAT FINAL ACTION: Accept in Principle (2.3.4)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-138

RECOMMENDATION: Identify those publications, from within the list in the Recommendation, that are to be placed in 2.3.4 as it is not clear what remains when the ASD and LRFD materials are spun off into annex text.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

No action is necessary.

COMMITTEE STATEMENT: No modifications are necessary at this time. The necessary modifications were made at the ROP stage. See Committee Action on Proposal 5000-138.

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-105a Log #CC107 BLD-MAT FINAL ACTION: Reject (2.3.3, 45.4.1.1, 45.4.2.1, A.45.4.1.1, and A.45.4.2.1)

TCC Action: The Technical Correlating Committee (TCC) notes that the availability of the referenced documents will occur before the committees report is delivered in June of 2005. The TCC also notes that BLD-MAT is predisposed to accepting use of the 2005 editions of the noted documents, but that the finished product will not be available until March of 2005.

SUBMITTER: Technical Committee on Materials

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: Modify sections as follows:

Item 1: 2.3.4 AF&PA Publications: Modify 2.3.4 as follows:

2.3.4 AF&PA Publications. American Forest & Paper Association, 1111 19th Street, NW, Suite 800, Washington, DC 20036.

NDS: National Design Specifications for Wood Construction, 2001. [Chapter 35] 35.1.2.8.7, [Chapter 45] 45.4.11.1, to include:


- Structural Glued Laminated Timber

- Timber Poles and Piles

- Structural Use Panels

- Structural Use Panel Shearwall and Diaphragm

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Report on Comments — Copyright, NFPA

LRFD, Load and Resistance Factor Design Manual for Engineered Wood Construction, 1996. [Chapter 35] 35.1.2.8.7, [Chapter 45] 45.2.1.1, to include:


ASD/LRFD Supplement - Special Design Provisions for Wind and Seismic, 2001

- Supplement - Structural Lumber
- Supplement - Glued Laminated Timber
- Supplement - Purlin and Purlin Systems
- Supplement - Structural Use Panels
- Supplement - Structural Connections

ANSI/AF&PA NDS, National Design Specification (NDS) for Wood Construction, 2001. [Chapter 31] 3.3.362, [Chapter 35] 35.1.2.8.7, [Chapter 45] 45.2.5, 45.4.1.1, 45.4.2.1

NDS Supplement, NDS Supplement - Design Values for Wood Construction, 2005. [Chapter 35] 35.1.2.8.7, [Chapter 45] 45.4.1.1, 45.4.2.1

SDPWs, Special Design Provisions for Wind and Seismic, 2005. [Chapter 35] 35.1.2.8.7, 45.4.1.1, 45.4.2.1

Item 2: Chapter 45: Revise as follows:

45.4.1.1 § Structural analysis and construction of wood elements and structures using allowable stress design methods shall be in accordance with AF&PA National Design Specification (NDS) for Wood Construction, NDS Supplement, and Special Design Provisions for Wind and Seismic. ASD/LRFD Supplement - Special Design Provisions for Wind and Seismic, 2001. [Chapter 45] 45.4.1.1, 45.4.2.1

Item 3: Annex: Revise both A.45.4.1.1 and A.45.4.2.1 to read as follows:

A.45.4.1.1 Additional information can be found in the AF&PA Manual for Engineered Wood Construction. Guidelines contained in the Allowable Stress Design Manual for Engineered Wood Construction for:

- Wood I-Joists
- Structural Composite Lumber
- Metal Plate Connected Wood Trusses
- Pre-Engineered Metal Connectors

A.45.4.2.1 Additional information can be found in the AF&PA Manual for Engineered Wood Construction. Guidelines contained in the Load and Resistance Factor Design Manual for Engineered Wood Construction for:

- Wood I-Joists
- Structural Composite Lumber
- Metal Plate Connected Wood Trusses
- Pre-Engineered Metal Connectors

SUBSTANTIATION: It is anticipated that the new edition of the AF&PA NDS, NDS Supplement, and Special Design Provisions for Wood & Seismic will be available by March 2005. These new documents are a combination of ASD and LRFD methods. Therefore, the suggested changes correct references in the body and annex of the code.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since ANSI/AF&PA NDS-05 will not be available until March 2005. However, if ANSI/AF&PA NDS-05 was published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee would be in favor of this being overturned at either the Association Annual Meeting or the Standards Council Meeting.

NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-106 Log #386 BLD-STR

5000-105b Log #CC15 BLD-STR

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT IN PRINCIPLE to ACCEPT IN PRINCIPLE. Revise the reference to recognize the 2005 edition of AISC 360 and the 2005 edition of AISC 313; the 2005 editions of SJI Publications.

COMMEN ON AFFIRMATIVE

NACHMANN: See my Affirmative on Comment 5000-4. FINAL ACTION: Accept in Principle (2.3.6)
ANSLI/AISC 341. Seismic Provisions for Structural Steel Buildings, 2005 [Chapter 44] 4.2.1.22, 4.2.1.24, 4.2.1.28, 4.2.1.34, 4.2.1.36

2.3.7 ANSI Publications. American Iron and Steel Institute, 1101 17th Street, NW, Suite 1300, Washington DC 20036.


AISI-GEF, General, Standard for Cold-formed Steel Framing—General Provisions, 2004. [Chapter 35] 35.1.2.8.3(3) [Chapter 44] 4.7.1

AISI-Header, Standard for Cold-formed Steel Framing—Header Design Requirements, 2004. [Chapter 44] 4.4.7.3

AISI-Prescriptive, Standard for Cold-formed Steel Framing,—Prescriptive Method for One and Two Family Dwellings, 2001, Including 2004 Supplement [Chapter 35] 35.1.2.3(3), [Chapter 44] 4.7.4

AISI-Truss, Standard for Cold-formed Steel Framing—Trusses 2004. [Chapter 44] 4.7.2

2.3.36 SJI Publications. Steel Joist Institute, 3127 10th Ave., North Ext, Myrtle Beach, SC 29577-6760.

Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders, 2001. [Chapter 35] 35.1.2.8.3(6)


Standard Specifications for Structural Steel Beams with Web Openings, 2001. [Chapter 44] 4.4.3.1(3) [5000-161 (Log #275a)], [5000-162 (Log #275b)]

SUBSTANTIATION: The above updates steel references to new standards that are either completed or expected to be completed for the NFPA code process.

COMMITTEE MEETING ACTION: Accept in Part

Accept: 2.3.7.

Reject: Modifications to 2.3.6 and 2.3.36.

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since the AISC and SJI documents will not be available until January 2005. However, if these documents were published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting. Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98b (Log #CC14).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTGEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-106b Log #361 BLD-STR FINAL ACTION: Reject (2.3.11)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT”. Revise the reference to recognize the 2004 edition of ANSI Z97.1. The TCC was provided with a summary of changes of the 2004 edition of ANSI Z97.1. This was not available during the ROC preparation meeting of BLD-MAT.

SUBMITTER: Technical Committee on Materials

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: Modify 2.3.9 as follows:

2.3.9 ANSI Publications. American National Standards Institute, Inc., 11 West 42nd Street, 13th floor, New York, NY 10036.


[Chapter 48] 48.7.12(2)

SUBSTANTIATION: It is anticipated that there will be a new edition of this document by December 2004.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: In light of Comment 5000-96, the Technical Committee had to reject this comment, since ANSI Z 97.1-04 will not be available until December 2004. However, if it was published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLLOT NOT RETURNED: 2 HOGAN, VEITAS
Committee requests that the TCC change the Committee Action at its ROC Meeting. Additionally, the Technical Committee notes that the ASCE 24 section numbers cited in NFPA 5000, Chapter 39 may need to be coordinated with the 2005 edition of ASCE 24. Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98b (Log#CC14).

**NUMBER ELIGIBLE TO VOTE:** 27
**BALLOT RESULTS:** Affirmative: 22
**BALLOT NOT RETURNED:** 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

**COMMENT ON AFFIRMATIVE:**
Jones: The 2003 Edition of NFPA 5000 makes several references to SEI/ASCE 24, Flood Resistant Design and Construction. The 1998 edition of SEI/ASCE 24 was in effect when NFPA 5000 (2003 edition) was developed. A new edition of SEI/ASCE 24 is being produced now (committee balloting is complete, public balloting will close in January 2005), and some of the sections referenced in the 2003 edition of NFPA 5000 will change. In order for the SEI/ASCE 24 sections referenced in the updated NFPA 5000 to be correct, the changes shown in the table below should be made.

<table>
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<th>NFPA 5000 Section</th>
<th>Section of SEI/ASCE referenced in 1998 (2003 Ed.)</th>
<th>Updated SEI/ASCE section number for 2005 Ed.</th>
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*same as reference in 5000 (2003 Ed.) no change needed

**NACHEMEN:** See my Affirmative with Comment on 5000-4.

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Committee Meeting Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE,” Revise the reference to recognize the 2005 edition of ASCE 7 and ASCE 24. The TCC was provided with a summary of changes of the 2005 edition of SEI/ASCE 24 and ASCE/SFPE 29. The TCC was provided with a summary of changes of the 2005 edition of new edition of ASCE/SFPE 29. This was not available during the ROC preparation meeting of BLD-BLC. Committee Action at its ROC Meeting. The Technical Committee notes that the ASCE 24 section numbers cited in NFPA 5000, Chapter 39 may need to be coordinated with the 2005 edition of ASCE 24. Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98b (Log#CC14).

**NUMBER ELIGIBLE TO VOTE:** 27
**BALLOT RESULTS:** Affirmative: 22
**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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Committee Meeting Action: Accept in Part
Accept: Changes to ASCE/SEI 8
Reject: Changes to ASCE 7, ASCE 24

**COMMITTEE MEETING ACTION:** In light of Comment 5000-95, the Technical Committee had to reject part of this comment, since ASCE 7-05 and ASCE 24-05 were not available until January 2005. However, if ASCE 7-05 and ASCE 24-05 were published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept” for these documents. Consequently, the Technical
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<th>Log Number</th>
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<th>Subcommittee</th>
<th>Comment on Proposal No.</th>
<th>Recommendation</th>
<th>Comment on Affirmative</th>
<th>Committee Meeting Action</th>
<th>Committee Statement</th>
<th>Ballot Results</th>
<th>Number Eligible to Vote</th>
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**Committee Statement:**

- **COMMITTEE STATEMENT:**
  - **BALLOT NOT RETURNED:**
  - **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 21
- **NUMBER ELIGIBLE TO VOTE:** 23
- **BALLOT NOT RETURNED:** 2 ALLEN, WATTS
- **COMMITTEE STATEMENT:**
  - **BALLOT NOT RETURNED:**
  - **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 21
- **NUMBER ELIGIBLE TO VOTE:** 23
- **BALLOT NOT RETURNED:** 2 ALLEN, WATTS
- **COMMITTEE STATEMENT:**
  - **BALLOT NOT RETURNED:**
  - **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 21
- **NUMBER ELIGIBLE TO VOTE:** 23
- **BALLOT NOT RETURNED:** 2 ALLEN, WATTS
- **COMMITTEE STATEMENT:**
  - **BALLOT NOT RETURNED:**
  - **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 21
- **NUMBER ELIGIBLE TO VOTE:** 23
- **BALLOT NOT RETURNED:** 2 ALLEN, WATTS
- **COMMITTEE STATEMENT:**
  - **BALLOT NOT RETURNED:**
  - **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 21
- **NUMBER ELIGIBLE TO VOTE:** 23
- **BALLOT NOT RETURNED:** 2 ALLEN, WATTS

**Report on Comments — Copyright, NFPA**

**5000-115 Log #289b BLD-MAT**

**COMMITTEE STATEMENT:**

- **BALLOT NOT RETURNED:**
- **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 17
- **NUMBER ELIGIBLE TO VOTE:** 19
- **BALLOT NOT RETURNED:** 2 HOGAN, VEITAS

**Sequence No. 5000-115 was not used**

**5000-116 Log #289a BLD-MAT**

**COMMITTEE STATEMENT:**

- **BALLOT NOT RETURNED:**
- **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 17
- **NUMBER ELIGIBLE TO VOTE:** 19
- **BALLOT NOT RETURNED:** 2 HOGAN, VEITAS

**Report on Comments — Copyright, NFPA**

**5000-116 Log #289a BLD-MAT**

**COMMITTEE STATEMENT:**

- **BALLOT NOT RETURNED:**
- **NUMBER ELIGIBLE TO VOTE:**
- **COMMITTEE MEETING ACTION:** Accept
- **BALLOT RESULTS:** Affirmative: 17
- **NUMBER ELIGIBLE TO VOTE:** 19
- **BALLOT NOT RETURNED:** 2 HOGAN, VEITAS
COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to documents referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.
TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from “ACCEPT” to “ACCEPT IN PRINCIPLE—see the committee action on 5000-98b. The actual committee action was implemented in 5000-98b.”

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMENT ON PROPOSAL NO: 5000-163

RECOMMENDATION: Revise as follows:

8.7.5.2(B)

UL 1286, Standard for Office Furnishings, 2002

COMMITTEE MEETING ACTION: Accept

SUBSTANTIATION:

5000-119 Log #288c BLD-STR

REPORT RESULTS: Affirmative: 22

ANSi/UL 723, Test for Surface Burning Characteristics of Building Materials, 2003. [Chapter 48] A.48.3.2.1


UL 1588, Outline of Investigation for Roof and Gutter De-Icing Cable Units, 2002. [Chapter 32] A.32.2.5.3


UL 2078, Standard for Fire Resistance of Roof Deck Constructions, 2004. [Chapter 3] 3.3.43.3

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 27

5000-120 Log #288d BLD-MEA

FINAL ACTION: Accept in Part (2.3.41 and D.1.2.11)

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative on Comment 5000-4.

5000-52
D.1.2.11 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.


UL 10C, Standard for Positive Pressure Fire Tests of Door Assemblies, 2004. [Chapter 8] A.8.7.5.2


UL Subject 1588, Outline of Investigation for Roof and Gutter De-Icing Cable Units, 2002. [Chapter 32] A.32.2.3.2.3, A.32.2.5.3


SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3.

COMMITTEE MEETING ACTION: Accept in Part

In 2.3.41, update the edition date of UL 924 from “1995” to “1995, Revised 2001”.

COMMITTEE STATEMENT: Of the UL documents recommended for updating by the submitter, only UL 924 is within the purview of the BLD-MEA committee. The updating of that edition date was accepted.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23
Abstain: 1

EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 and is not supported by the National Association of Home Builders.

RECOMMENDATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to a few references referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

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COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMITTEE MEETING ACTION: Accept
COMMITTEE MEETING ACTION: Accept in Principle

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept in Part

Update the UL publication dates as recommended by the submitter. Do not add the listing of the paragraph numbers showing where in the Code the particular document is referenced.

COMMITTEE MEETING ACTION: If the NFPA publication templates and policies permit the listing of the paragraph numbers showing where in the Code the particular document is referenced, NFPA staff will compile the needed entries.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

UL 1897, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, 2001 [Chapter 7] 7.2.3.2.15.5 7.2.3.2.16(1)(c) [5000-307 (Log#CP901)]
UL 2218, Standard for Impact Resistance of Prepared Roof Covering Materials, 2002 [Chapter 38] 38.5.2.1(2), 38.5.2.2(2) [5000-165, (Log#289c), T5000-165 (Log#285d), 50000-165 (Log#285g)]

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept in Principle

Report on Comments — Copyright, NFPA

ANSI/UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, 2001 [Chapter 7] 7.2.3.2.15.5 7.2.3.2.16(1)(c) [5000-307 (Log#CP901)]

SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept in Part

Update the UL publication dates as recommended by the submitter. Do not add the listing of the paragraph numbers showing where in the Code the particular document is referenced.

COMMITTEE MEETING ACTION: If the NFPA publication templates and policies permit the listing of the paragraph numbers showing where in the Code the particular document is referenced, NFPA staff will compile the needed entries.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-124 Log #289b BLD-BLC FINAL ACTION: Accept in Part (2.4.41)

TCC Action: The Technical Correlating Committee (TCC) notes that the ANSI designation for UL Standards ANSI/UL 790, ANSI/UL 1256, and ANSI/UL 1897 should be added by NFPA staff during final edits of the code. Also, see Committee Comment 5000-123 where BLD-FUN action further addresses the formatting.

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMENT ON PROPOSAL NO: 5000-163
RECOMMENDATION: Revise as follows: 2.3.41 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.

UL 1256, Standard for Safety for Fire Test of Roof Deck Constructions, 2002 [Chapter 38] 38.3.2(3), 38.4.4.1(2) [5000-345 (Log#574), 50000-955 (Log#770)]


UL 2018, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics, 1999 [Chapter 7] 7.2.3.2.15.3 7.2.3.2.16(1)(c) [5000-307 (Log#CP901)]
UL 1887, Standard for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics, 1999 [Chapter 7] 7.2.3.2.15.2 7.2.3.2.16(1)(b) [5000-307 (Log#CP901)]
SUBSTANTIATION: Update to most current editions and titles of referenced standards in accordance with NFPA Manual of Style 3.6.3.1.1 and 1.6.2.3. This partially duplicates, and supplements another UL Comment that covers Section 2.3.41 and D.1.2.11.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, the changes that were accepted to the comments referenced in the Technical Committee’s chapters have been incorporated into the Committee Recommendation on Comment 5000-98b (Log #CC14).

NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1

SUBMITTER: Technical Committee on Fundamentals

COMMENT ON PROPOSAL NO: 5000-175

RECOMMENDATION: Reject Part 1 of Proposal 5000-175 which added the words “but are defined in other NFPA documents, the definitions used in the NFPA documents shall apply. Where terms are not defined in this chapter, within another chapter or within another NFPA document” to 3.1, so 3.1 remains the same as printed in the 2003 edition.

3.1 General. The following terms, for the purposes of this Code, shall have the meanings given in this chapter, if not otherwise modified by another chapter. Words used in the present tense shall include the future; words used in the masculine gender shall include the feminine and neuter; the singular number shall include the plural, and the plural number shall include the singular. Where terms are not defined in this chapter or within another chapter but are defined in other NFPA documents, the definitions used in the NFPA documents shall apply. Where terms are not defined in this chapter, within another chapter or within another NFPA document, they shall be defined using their ordinarily accepted meanings within the context in which they are used. Webster’s Third New International Dictionary of the English Language, Unabridged, shall be a source for ordinarily accepted meaning.

SUBSTANTIATION: The BLD-IND committee prepared Proposal 5000-175 after the BLD-FUN committee (which has primary responsibility for Chapter 3 format and general items) had finished its work on the ROP. The change proposed by BLD-IND will create confusion and error. One example follows: in 6.2.4.1(5) the term “accessory” is used as “where not accessory to an occupancy with high-hazard contents...” In 11.5.1.8 the term “accessory” is used as “provided that such adjoining rooms are accessory to the area served...” In 12.2.4 the term “accessory” is used as “plumbing fixtures and accessories provided in toilet or bathing rooms...” In 16.4.5.3 the term accessory is used as “workshops, storerooms, permanent dressing rooms, and other accessory spaces contiguous to stages...” Yet, the term “accessory” is not defined in NFPA 5000. The change proposed to 3.1 by Proposal 5000-175 would require the definition of accessory to be that in other NFPA documents. Both NFPA 180 and NFPA 1981 define the term. Those definitions follow:

Accessory. An item that can be provided with an RPED that does not affect its ability to meet the requirements of this standard. [NFPA 180]

Accessory. An item, or items, that are attached to the certified product that are not necessary to meet the requirements of the standard. [NFPA 1981]
Note that both definitions are incorrect with respect to how the term is used in NFPA 5000. The BLD-IND committee is encouraged to identify the terms in NFPA 5000 chapters use which are not defined in NFPA 5000, but are defined in other NFPA documents. The definitions of those terms can be extracted for placement in NFPA 5000.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

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**TCC Action:** The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “REJECT-See the committee action on 5000-126a.”

**SUBMITTER:** Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

**COMMENT ON PROPOSAL NO:** 5000-175

**RECOMMENDATION:** With respect to part 1 of proposal 5000-175, accept the language recommended in the proposal with the following revision: 3.1 General: The following terms, for the purposes of this Code, shall have the meanings given in this chapter, if not otherwise modified by another chapter. Words used in the present tense shall include the future; words used in the masculine gender shall include the feminine and neuter; the singular number shall include the plural, and the plural number shall include the singular. Where terms are not defined in this chapter or within another chapter but are defined in other NFPA documents, the definitions used in the NFPA documents shall apply. Where terms are not defined in this chapter, within another chapter or within another NFPA document, they shall be suitably defined using their ordinarily accepted meanings within the context in which they are used. Webster's Third New International Dictionary of the English Language, Unabridged, shall be a source for ordinarily accepted meaning.

**SUBSTANTIATION:** The proposed revision to Section 3.1 as indicated in this comment is in response to the action taken by BLD-FUN on comment 5000-126a. BLD-FUN notes that many terms were not incorporated into NFPA 5000 from other NFPA documents, and that more confusion would result if the proposed revisions are not incorporated. The committee believes that the concerns raised by BLD-FUN in comment 5000-126a are addressed in part by this comment.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

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**TCC Action:** The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “REJECT-See the committee action on 5000-126a.”

**SUBMITTER:** Technical Committee on Building Systems

**COMMENT ON PROPOSAL NO:** 5000-571

**RECOMMENDATION:** Definitions to be added to Chapter 3: 

**Area of Sport Activity (Accessibility).** That portion of a room or space where the play or practice of a sport occurs.

**Assembly Area (Accessibility).** A building or facility, or portion thereof, used for the purpose of entertainment, educational or civic gatherings, or similar purposes. For the purposes of these requirements, assembly areas include, but are not limited to, classrooms, lecture halls, courthouses, public meeting rooms, public hearing rooms, legislative chambers, motion picture houses, auditoriums, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers.

**Assistive Listening System (ALS) (Accessibility).** An amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a listener and a performance source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

**Boarding Pier (Accessibility).** A portion of a pier where a boat is temporarily secured for the purpose of embarking or disembarking.

**Boat Slip (Accessibility).** That portion of a pier, main pier, finger pier, or float where a boat is moored for the purpose of berthing, embarking, or disembarking.

**Catch Pool (Accessibility).** A pool or designated section of a pool used as a terminus for water slide flumes.

**Closed-Circuit Television (Accessibility).** A television with a dedicated line such as a house phone, courtesy phone or phone that must be used to gain entry to a facility.

**Employee Work Area (Accessibility).** All or any portion of a space used only by employees and used only for work. Corridors, toilet rooms, kitchenettes and break rooms are not employee work areas.

**Entrance (Accessibility).** Any access point to a building or portion of a building or facility used for the purpose of entering. An entrance includes the approach walk, the vertical access leading to the entrance platform, the entrance platform itself, vestibule if provided, the entry door or gate, and the hardware of the entry door or gate.

**Gangway (Accessibility).** A variable-sloped pedestrian walkway that links a fixed structure or land with a floating structure. Gangways that connect to vessels are not addressed by this document.

**Transient Lodging (Accessibility).** A building or facility containing one or more guest room(s) for sleeping that provides accommodations that are primarily short-term in nature. Transient lodging does not include residential dwelling units intended to be used as a residence, inpatient medical care facilities, licensed long-term care facilities, detention or correctional facilities, or private buildings or facilities that contain not more than five rooms for rent or hire and that are actually occupied by the proprietor as the residence of such proprietor.

**Transition Plate (Accessibility).** A sloping pedestrian walking surface located at the end(s) of a gangway.

**TTY (Accessibility).** An abbreviation for teletypewriter. Machinery that employs interactive text-based communication through the transmission of coded signals across the telephone network. TTYS may include, for example, devices known as TDDs (telecommunication devices for deaf persons) or computers with special mods. TTYS are also called text telephones.

**Walk (Accessibility).** An exterior prepared surface for pedestrian, including pedestrian areas such as plazas and courts.

**Wheelchair Space (Accessibility).** Space for a single wheelchair and its occupant.

**Work Area Equipment (Accessibility).** Any machine, instrument, engine, motor, pump, conveyor, or other apparatus used to perform work. As used in this document, this term shall apply to equipment that is permanently installed or built-in in employee work areas. Work area equipment does not include passenger elevators and other accessible means of vertical transportation.

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**Definitions that exist in 5000 to be changed/added in Chapter 3**

**Mezzanine.** (Accessibility) An intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of more than one-third of the area of the room or space in which the level or levels are located. Mezzanines have sufficient elevation that space for human occupancy can be provided on the floor below.

**Occupant Load (Accessibility).** The number of persons for which the means of egress of a building or portion of a building is designed.

**Private Building or Facility (Accessibility).** A place of public accommodation or a commercial building or facility subject to title III of the ADA and 28 CFR part 36 or a transportation building or facility subject to title II of the ADA and 49 CFR 37.45.

**Public Building or Facility (Accessibility).** A building or facility or portion of a building or facility designed, constructed, or altered by, on behalf of, or for the use of a public entity subject to title II of the ADA and 28 CFR part 35 or to title II of the ADA and 49 CFR 37.41 or 37.43.

**Residential Dwelling Unit (Accessibility).** A unit intended to be used as a residence, that is primarily long-term in nature. Residential dwelling units do not include transient lodging, inpatient medical care, licensed long-term care, and detention or correctional facilities.

**Story (Accessibility).** That portion of a building or facility designed for human occupancy included between the upper surface of a floor and upper surface of the floor or roof next above. A story containing one or more mezzanines has more than one floor level.

**Structural Frame (Accessibility).** The columns and the girders, beams, and trusses having direct connections to the columns and all other members that are essential to the stability of the building or facility as a whole.

**SUBSTANTIATION:** The committee reviewed all the comments relating to Chapter 12 and has addressed them in one way or another through 5000-359a (Log #CC351) 5000-98c (Log #CC352) and 5000-126a (Log #CC353).

The committee has used all of the scoping requirements from ADA/ABA - AG 7-23-2004 and the technical requirements contained in ADA/ABA-AG 7-23-2004, the technical requirements of ICC/ANSI A117.1-2003 with the exception of 605.2 that has been replaced by the text from 605.2 of ADA/ABA-AG 7-23-2004 and the technical requirements contained in ADA/ABA-AG 7-23-2004 not contained in AG 7-23-2004.

Committee Proposal 5000-98c (Log #CC352) added new references to Chapter 2. Committee Proposal 5000-126a (Log #CC353) added new and/or revised definitions to Chapter 3 appropriate for the new Chapter 12.

In addition, The committee rescinded its prior vote to ask that the Standards Council create a new TC on Accessibility based on part in the fact that there is now an Accessibility advisory committee to the NFPA President.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 20

**BALLOT RESULTS:** Affirmative: 14

**BALLOT NOT RETURNED:** 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE
5000-127 Log #30a BLD-FUN
(Chapter 3 Definitions (GOT))

FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-FUN.

COMMITTEE STATEMENT: The committee believes that the action taken by BLD-FUN with regard to definitions as documented in Proposal 5000-171 is appropriate.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-131 Log #30d BLD-MEA
(Chapter 3 Definitions (GOT))

FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
Further action needed by BLD-MEA.

COMMITTEE STATEMENT: Definitions under the purview of BLD-MEA were addressed adequately at the ROP stage, as supplemented by the action on Comment 5000-152.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 23 Abstain: 1
EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-132 Log #30g BLD-AXM
(Chapter 3 Definitions (GOT))

FINAL ACTION: Accept in Part

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Part
Maintain the definition of the term flashover which is the same as that used in NFPA 555, Guide on Methods for Evaluating Potential for Room Flashover.

COMMITTEE STATEMENT: Even though the definition of the term flashover is identified as a secondary definition by the NFPA Glossary of Terms, the committee prefers this definition and believes it to be more accurate. The committee is also of the opinion that the Technical Committee on Hazard and Risk of Contents and Furnishings should hold primary responsibility for the definition of the term flashover.

NUMBER ELIGIBLE TO VOTE: 11
BALLOT RESULTS: Affirmative: 11

5000-133 Log #30h BLD-AXM
(Chapter 3 Definitions (GOT))

FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action by BLD-AXM.

COMMITTEE STATEMENT: Definitions were adequately handled by BLD-AXM at the ROP stage.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-134 Log #30i BLD-DET
(Chapter 3 Definitions (GOT))

FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-END.

COMMITTEE STATEMENT: The board and care chapters are not affected by the revised definitions in Proposal 5000-171; therefore, no action is needed.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 14
BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-135 Log #30k BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-161
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-END.

COMMITTEE STATEMENT: The definitions were adequately handled by BLD-END at the ROP-preparation stage.

NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

5000-136 Log #30l BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-HEA.

COMMITTEE STATEMENT: The actions taken on definitions at the ROP-stage adequately cover the subject.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 7 BROOKS, FISHECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-137 Log #30k BLD-RES
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No action.

COMMITTEE STATEMENT: The revised definitions in Proposal 5000-171 do not affect the chapters for which the TC on Residential Occupancies is responsible.

NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 3 BONISCH, CONVER, ONEISOM

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-138 Log #30l BLD-BCP
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No action.

COMMITTEE STATEMENT: The definitions were adequately handled by BLD-END at the ROP-preparation stage. No other changes are needed.

NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

5000-139 Log #30m BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No specific action necessary.

COMMITTEE STATEMENT: The committee does not believe that further changes to the definitions are needed.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOTES

5000-140 Log #30n BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-128.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-128.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 23
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAI, WREN

5000-141 Log #30p BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No action.

COMMITTEE STATEMENT: No action is necessary.

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-142 Log #30p BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept
No action.

COMMITTEE STATEMENT: No action is necessary.

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-143 Log #30q BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept
No action.

COMMITTEE STATEMENT: No action is necessary.

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-144 Log #30r BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept
No action.

COMMITTEE STATEMENT: No action is necessary.

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-145 Log #30s BLD-END
(Chapter 3 Definitions (GOT))
FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept
No action.

COMMITTEE STATEMENT: No action is necessary.

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS
REPORT ON COMMENTS — Copyright, NFPA

5000-143 Log #30q BLD-BSY FINAL ACTION: Accept
(Chapter 3 Definitions (GOT))

COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: See the above recommendation.

RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

SUBSTANTIATION: See the above recommendation.

5000-144 Log #30q BLD-IND FINAL ACTION: Reject
(Chapter 3 Definitions (GOT))

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The committee finds that no action is required by this committee.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 14
BALLOT NOT RETURNED: 6 AMBREEFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

RECOMMENDATION: Adoption of preferred definitions will assist the user by providing consistent meaning of defined terms throughout the National Fire Codes.

The following procedure must be followed when acting on defined terms (extract from the Glossary of Terms Definitions Procedure):

2.1 Revising Definitions.

Prior to revising Preferred definitions, the Glossary of Terms should be consulted to avoid the creation of additional Secondary definitions.

2.1.2 All Secondary definitions should be reviewed and eliminated where possible by the following method (in order of preference):

a) adopt the preferred definition if suitable.

b) modify the secondary term and/or definition to limit its use to a specific application within the scope of the document.

c) request that the Standards Council determine responsibility for the term.

d) request that the Standards Council authorize a secondary definition.

2.3.2.6 Existing general definitions contained in the NFPA Glossary of Terms shall be used where technically accurate and correct.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

This was requested at the last cycle by the technical committees on Assembly Occupancies and Educational and Day-Care Occupancies. I will not repeat all the information provided in the proposal or in the comments to proposals 101-608, 101-624, and 5000-234.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement for Final Action.

SUBSTANTIATION: Adoption of preferred definitions will assist the user by providing consistent meaning of defined terms throughout the National Fire Codes.

The following procedure must be followed when acting on defined terms (extract from the Glossary of Terms Definitions Procedure):

2.1 Revising Definitions.

Prior to revising Preferred definitions, the Glossary of Terms should be consulted to avoid the creation of additional Secondary definitions.

2.1.2 All Secondary definitions should be reviewed and eliminated where possible by the following method (in order of preference):

a) adopt the preferred definition if suitable.

b) modify the secondary term and/or definition to limit its use to a specific application within the scope of the document.

c) request that the Standards Council determine responsibility for the term.

d) request that the Standards Council authorize a secondary definition.

2.3.2.6 Existing general definitions contained in the NFPA Glossary of Terms shall be used where technically accurate and correct.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement for Final Action.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

This was requested at the last cycle by the technical committees on Assembly Occupancies and Educational and Day-Care Occupancies. I will not repeat all the information provided in the proposal or in the comments to proposals 101-608, 101-624, and 5000-797.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: Note that the term “multilevel play structure” is already defined in 3.3.530.7. At the time BLD-FUN met to prepare its ROA action, theROP rejection of special requirements for children’s playground structures was still in effect. Thus, the term is not in the Code.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

RECOMMENDATION: Accept the proposal in part in principle with the following language in a new section in Chapter 3 on definitions:

3.3.3x Children’s Playground Structure. A play structure made up of one or more components intended for the entertainment of children where the user enters an enclosed play environment.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

RECOMMENDATION: Accept the proposal in part in principle with the following language in a new section in Chapter 3 on definitions:

3.3.3x Children’s Playground Structure. A play structure made up of one or more components intended for the entertainment of children where the user enters an enclosed play environment.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

RECOMMENDATION: Accept the proposal in part in principle with the following language in a new section in Chapter 3 on definitions:

3.3.3x Children’s Playground Structure. A play structure made up of one or more components intended for the entertainment of children where the user enters an enclosed play environment.

SUBSTANTIATION: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in new construction. The definition is added to clarify the type of structure involved.

RECOMMENDATION: Accept the proposal in part in principle with the following language in a new section in Chapter 3 on definitions:

3.3.3x Children’s Playground Structure. A play structure made up of one or more components intended for the entertainment of children where the user enters an enclosed play environment.
This was requested at the last cycle by the technical committees on Assembly Occupancies and Educational and Day-Care Occupancies. I will not repeat all the information provided in the proposal or in the comments to proposals 101-608, 101-624 and 5000-797.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Play structures are assembly occupancies regardless of occupant load based on 6.1.2(12). The term Children’s Playground Structure is not used in the Code. The Code already defines the term Multilevel Play Structure.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-147 Log #297c BLD-MER FINAL ACTION: Reject

COMMITTEE STATEMENT: The proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101, on mercantile occupancies, to incorporate requirements for children’s playgrounds in malls. The definition is added to clarify the type of structure involved. This was requested at the last cycle by the technical committees on Assembly Occupancies and Educational and Day-Care Occupancies.

I will not repeat all the information provided in the proposal or in the comments to proposals 101-608, 101-624 and 5000-797.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The proposed term is not used in the code.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

5000-148 Log #418 BLD-MEA FINAL ACTION: Accept

5000-150 Log #32 BLD-MEA FINAL ACTION: Accept in Principle

COMMITTEE STATEMENT: The supplemental evacuation equipment will not receive credit for satisfying any means of egress requirements.

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 20 Negative: 1 Abstain: 3

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: In considering equivalency, it is critical that the alternative method of providing "an equal or greater degree of safety" is at least as reliable as the level afforded by strict conformance to Codes and Standards. Codes and Standards are consensus based documents reflecting the collective knowledge and experience of many people and organizations. In order for a technique or system to be acceptable as an alternative to this collective wisdom, it should be proven and reliable.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The submitter’s proposed changes provide no improvement over current text. The words “proven” and “reliability” are not defined to support the submitter's text.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-180

RECOMMENDATION: Give consideration to Shulman’s and Versteeg’s explanation of negative and Koffel’s comment on affirmative so as to make any needed changes. Also see the TCC note for Proposal 5000-544.

COMMITTEE MEETING ACTION: Accept in Principle

See committee action on Comment 5000-343 which retains the subject of escape devices and systems, but relocates it to a new Section 11.13 on supplemental evacuation equipment. See committee action on Comment 5000-343 which retains the subject of escape devices and systems, but relocates it to a new Section 11.13 on supplemental evacuation equipment.

RECOMMENDATION: See committee action on Comment 5000-343 which retains the subject of escape devices and systems, but relocates it to a new Section 11.13 on supplemental evacuation equipment.

COMMITTEE MEETING ACTION: Reject

This material is not appropriate for the Code. At best it could be used in one- and two-family dwellings and that chapter does not use the term. All of the occupancy committees except one have rejected the concept and there is a comment to reject it in that occupancy.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See committee action on Comment 5000-343 which retains the subject of escape devices and systems, but relocates
it to a new Section 11.13 on supplemental evacuation equipment. Such evacuation equipment will not receive credit for satisfying any means of egress requirements.

**NUMBER ELIGIBLE TO VOTE:** 24  
**BALLOT RESULTS:** Affirmative: 20 Negative: 1 Abstain: 3

**EXPLANATION OF NEGATIVE:**
SHULMAN: In regard to 5000-150, -151 and -152, please see Shulman comments submitted with the ROP ballot under 5000-180.

**EXPLANATION OF ABSTENTION:**
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

**COMMITTEE STATEMENT:**
The committee action is consistent with the action on Comment 5000-343 which retains the subject of escape devices and systems, but relocates it to a new Section 11.13 on supplemental evacuation equipment. Such evacuation equipment will not receive credit for satisfying any means of egress requirements.

**NUMBER ELIGIBLE TO VOTE:** 24  
**BALLOT RESULTS:** Affirmative: 20 Negative: 1 Abstain: 3

**REPORT ON COMMENTS**
— Copyright, NFPA 2000}

3.3.xx* Escape Device or System.  Dedicated equipment that provides a supplemental means of egress or escape on the exterior of the building or structure.

A.3.3.xx Escape devices and systems include a variety of products on the market, some of which are not recognized by the Life Safety Code, as indicated in Section A.7.2.14. Devices such as but are not limited to cables, ropes, chain ladders, controlled descent devices, parachutes, slide-chutes, powered platforms, vertical take off and landing craft, and helicopter-suspended platforms typically do not meet the criteria of 11.2.13. As indicated in A.11.2.14, the Code recommends not recognizing some of these devices or systems.

**RECOMMENDATION:**
Add a definition to read as follows:

3.3.xx* Escape Device or System. Dedicated equipment that provides a supplemental means of egress or escape on the exterior of the building or structure.

A.3.3.xx Escape devices and systems include a variety of products on the market, some of which are not recognized by the Code, as indicated in A.11.2.13. Devices such as but are not limited to cables, ropes, chain ladders, controlled descent devices, parachutes, slide-chutes, powered platforms, vertical take off and landing craft, and helicopter-suspended platforms typically do not meet the criteria of 11.2.13. As indicated in A.11.2.14, the Code recommends not recognizing some of these devices or systems.

**COMMENT ON PROPOSAL NO:** 5000-180

**RECOMMENDATION:** Revise as follows:

3.3.xx* Escape Device or System. Dedicated equipment that provides an alternate means of egress or escape, typically, on the exterior of the building or structure.

A.3.3.xx Escape devices and systems include a variety of products on the market, some of which are not recognized by the Life Safety Code, as indicated in Section A.7.2.14. Devices such as but are not limited to cables, ropes, chain ladders, controlled descent devices, parachutes, slide-chutes, powered platforms, vertical take off and landing craft, and helicopter-suspended platforms typically do not meet the criteria of 11.2.13. As indicated in A.11.2.14, the Code recommends not recognizing some of these devices or systems.

**COMMENT ON AFFIRMATIVE:**
ELLOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore provided a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

**RECOMMENDATION:**
Add a definition to read as follows:

3.3.xx* Escape Device or System. Dedicated equipment that provides a supplemental means of egress or escape on the exterior of the building or structure.

A.3.3.xx Escape devices and systems include a variety of products on the market, some of which are not recognized by the Life Safety Code, as indicated in Section A.7.2.14. Devices such as but are not limited to cables, ropes, chain ladders, controlled descent devices, parachutes, slide-chutes, powered platforms, vertical take off and landing craft, and helicopter-suspended platforms typically do not meet the criteria of 11.2.13. As indicated in A.11.2.14, the Code recommends not recognizing some of these devices or systems.

**COMMENT ON AFFIRMATIVE:**
ELLOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore provided a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

**COMMITTEE STATEMENT:**
I am voting to support this proposal to define an escape device or system.

Based on documented disasters such as the one on 9/11, we know that the current codes in place cannot cover every possible disaster that could lead to loss of lives. The use of additional systems cannot anticipate every type of problem either, however, optional means of egress that do not interfere with systems required by the code may allow additional options for people to escape when regular means of egress are blocked. The support of the development of such secondary systems by NFPA will encourage development and add the experienced voice of NFPA to help define standards that will work with the codes in place now.

**COMMITTEE STATEMENT:**
I am voting to support this proposal to define an escape device or system.

**RECOMMENDATION:**
Add a definition to read as follows:

Fire Damper (preferred) NFPA 221, 2000 ed. A device, installed in an air distribution system, designed to close automatically upon detection of heat to interrupt migratory airflow and to restrict the passage of flame. Fire Damper (secondary) NFPA 5000, 2002 ed. A device installed in an air distribution system that is designed to close automatically upon detection of heat to interrupt migratory airflow and to restrict the passage of flame.

Fire Resistance Rating (secondary) NFPA 5000, 2002 ed. The time in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials. Fire Resistance Rating (secondary) NFPA 5000, 2002 ed. The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials.

Smoke Damper (preferred) NFPA 211, 2000 ed. A damper arranged to seal off airflow automatically through a part of an air duct system, to restrict the passage of smoke. Smoke damper also can be a standard louvered damper serving other control functions, provided the location lends itself to the dual purpose. A smoke damper is not required to meet all the design functions of
a fire damper, Smoke Damper (secondary) NFPA 5000, 2002, ed. A device within an air distribution system to control the movement of smoke.

**SUBSTANTIATION:** Even as a former member of the NFPA Fire Test Committee, I cannot support the proposal to adopt the primary definition of Fire Resistance Rating (from NFPA 220), Fire Damper, and Smoke Damper for the simple reason that this is not how the marketplace functions. In the case of Fire Resistance Rating, manufacturers test interchangeably to ASTM E119, UL 263, and NFPA 251. I support the Committee Action to retain the secondary definition.

**COMMITTEE MEETING ACTION:** Accept

No action necessary. The committee recommends that the secondary definitions for Fire Damper, Fire Resistance Rating and Smoke Damper be used as indicated in Proposal 5000-173.

**NUMBER ELIGIBLE TO VOTE:** 22

**BALLOT RESULTS:** Affirmative: 22

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5000-154 Log #545 BLD-IND **FINAL ACTION:** Accept in Principle (3.3.xx Frangible Building)

**TCC Action:** The Technical Correlating Committee (TCC) directs that this action be revised from to REJECT to “ACCEPT IN PRINCIPLE - See the committee action on 5000-217a.”

**SUBMITTER:** Phil Grucci, Fireworks by Grucci, Inc.

**COMMENT ON PROPOSAL NO:** 5000-181

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.

**COMMITTEE MEETING ACTION:** Rejected

**COMMENT ON PROPOSAL NO:** 5000-359

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements, of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.

**COMMITTEE MEETING ACTION:** Reject

**COMMENT ON PROPOSAL NO:** 5000-156 Log #546b BLD-BLC **FINAL ACTION:** Accept in Principle (3.3.xx Frangible Building)

**TCC Action:** The Technical Correlating Committee (TCC) directs that this action be revised from to REJECT to “ACCEPT IN PRINCIPLE - See the committee action on 5000-217a.”

**SUBMITTER:** Phil Grucci, Fireworks by Grucci, Inc.

**COMMENT ON PROPOSAL NO:** 5000-359

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.

**COMMITTEE MEETING ACTION:** Reject

**COMMENT ON PROPOSAL NO:** 5000-157 Log #546c BLD-STR **FINAL ACTION:** Accept in Principle (3.3.xx Frangible Building)

**TCC Action:** The Technical Correlating Committee (TCC) directs that this action be revised from to REJECT to “ACCEPT IN PRINCIPLE - See the committee action on 5000-217a.”

**SUBMITTER:** Phil Grucci, Fireworks by Grucci, Inc.

**COMMENT ON PROPOSAL NO:** 5000-359

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.

**COMMITTEE MEETING ACTION:** Rejected

**COMMENT ON PROPOSAL NO:** 5000-359

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.

**COMMITTEE MEETING ACTION:** Rejected

**COMMENT ON PROPOSAL NO:** 5000-359

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.

**COMMITTEE MEETING ACTION:** Rejected

**COMMENT ON PROPOSAL NO:** 5000-359

**RECOMMENDATION:** Revise text to read:

Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures; is intentionally designed without complete compliance with the fire safety and explosion control construction and protection requirements of this Code because of the impracticalities of such compliance due to its hazardous nature and minimum exposure to people and adjacent property.

**SUBSTANTIATION:** We don’t believe that the present definition for “frangible buildings” as proposed clearly conveys the type of building intended to be regulated by Section 7.4.1.3.5.3. It is our opinion that a frangible building is one that can be sacrificed to a fire or explosion without causing significant life loss or property damage to adjacent property. Typically, the code requirements that provide for fire safety and explosion control in these buildings may actually make such buildings unusable or impractical for use because of the cost and the type of construction that would be involved in complying with the applicable code requirements. The theory is that such buildings should be allowed to be constructed with sufficient spatial separation from adjacent properties and occupied facilities so that a total burn out or a totally destructive explosion would not have any significant negative impact on adjacent properties or people.
Comment on Proposal 5000-184

COMMITTEE STATEMENT:
Reject Proposal 5000-184 so as to NOT add a definition of kitchen.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT:
See Committee Action and Statement for Comment 5000-218a (log CC#701).

BALLOT RESULTS:
Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

Comment on Proposal 5000-181

COMMITTEE STATEMENT:
See Committee Statement for Comment 5000-218 (log CC#701).

BALLOT RESULTS:
Affirmative: 29
BALLOT NOT RETURNED: 23

5000-159 Log #415 BLD-FUN

SUBMITTER: William E. Koffel, Koffel Assoc., Inc.
COMMITTEE STATEMENT:
Revise current definition of Historic Building as follows:
3.3.58.10 Historic Building, A building or facility deemed to have historical, architectural, or cultural significance by a local, regional, or national entity.

5000-160 Log #366 BLD-IND

COMMITTEE STATEMENT:
Reject this proposal in part in principle and add definitions as follows:
3.3.44 Baled Cotton Definitions
3.3.44.1 Baled Cotton. A natural seed fiber wrapped and secured in industry-accepted materials, usually consisting of burlap, woven polypropylene, or sheet polyethylene, and secured with steel, synthetic, or wire bands, or wire; also includes linters (lint removed from the cottonseed) and motes (residual material). See 3.3.44.2 Densely-Packed Baled Cotton. Cotton, made into banded bales, with a packing density of at least 360 kg/m³ (22 lb/ft³), and dimensions complying with the following: a length of 1400 ± 20 mm (ca. 55 in.), a width of 530 ± 20 mm (ca. 21 in), and a height of 700-900 mm (27.6-35.4 in.).
3.3.44.2 Densely-Packed Baled Cotton. Cotton, made into banded bales, with a packing density of at least 360 kg/m³ (22 lb/ft³), and dimensions complying with the following: a length of 1400 ± 20 mm (ca. 55 in.), a width of 530 ± 20 mm (ca. 21 in), and a height of 700-900 mm (27.6-35.4 in.).
3.3.44.3 Fire-Packed Baled Cotton. A cotton bale within which a fire has been packed as a result of a process, ginning being the most frequent cause.
3.3.44.4 Naked Cotton Bale. An unwrapped cotton bale secured with wire or steel straps.
3.3.44.5 The Joint Cotton Industry Baler Packaging Committee (JCIBPC) specifications for baling of cotton now requires that all cotton bales be secured with wire bands, polyester plastic strapping or cold rolled high tensile steel strapping and then covered in fully-coated or strip coated woven polypropylene, polyethylene film or burlap.
bales with a packing density of at least 360 kg/m² (22 lb/ft²). The research showed that such cotton bales (densely-packed cotton bales) did not undergo self-heating or spontaneous combustion and that the likelihood of sustained, smoldering combustion internal to the cotton bale, creating a delayed fire hazard, was extremely low. The same research also showed that, when the cotton bales were exposed to smoldering cigarettes, matches and open flames (including the gas burner ignition source used for the mattress tests ASTM E 1590 and California Technical Bulletin 129), the probability of initiating flaming combustion was at such a low level as not to qualify the densely-packed cotton bales as flammable solids. These investigations resulted in the removal of the flammable solid designation from densely-packed cotton bales, complying with ISO 8115, “Cotton Bales - Dimensions and Density” and the exemption of such cotton bales from the Hazardous Materials Regulations.

Renumber all definitions after 3.3.44.

Add to the section referenced a standard reference to ISO 8115, “Cotton Bales - Dimensions and Density”.


SUBSTANTIATION: This comment is one of a set of three comments addressing proposals NFPA 5000-191, 5000-891, 5000-900 and 5000-1131. The basic objective of all the comments is to eliminate “densely-packed cotton bales” from the restrictions associated with hazardous materials. This requires changing definitions of baled cotton and amending the definition of combustible fiber.

In its statement when rejecting my proposal NFPA 5000-891, the technical committee on Industrial, Storage and Miscellaneous Occupancies stated that: “The committee is of the opinion that cotton is more appropriately classified as a combustible fiber rather than a flammable solid. The committee notes that fire-packed cotton does present a fire hazard, and is associated with deep seated fires that are difficult to control and extinguish once ignited. The committee also notes that only small scale tests are referenced in the substantiation, and that requirements for sprinkler systems are also triggered by building height and area. Even if proposed NFPA 5000-891 is accepted, the density is 14 lb/ft³ or higher, there is insufficient oxygen to sustain combustion. For that reason, defining densely-packed cotton bales, and perhaps should not include any “combustible fibers”.

The technical committee is correct in stating that cotton (as densely-packed cotton bales) is not a flammable solid, but that it is a combustible fiber. The technical committee is also correct in talking about the requirements for sprinklers triggered by building height and area. Even if proposed NFPA 5000-891 is accepted, there is no longer valid for densely-packed cotton bales. The Committee is correct in saying that fire-packed cotton bales, most of the information traditionally available is anecdotal evidence which is no longer valid for densely-packed cotton bales.

The committee notes that fire-packed cotton bales, it was shown that fire-packed cotton bales were separated from the cotton industry tests several complete cotton bales were exposed to the same flaming ignition source. Also as part of the same research conducted by the same research conducted by the cotton industry it was shown that fire-packed cotton bales, the cotton bale did not cause the cotton to burn because of lack of oxygen. The remainder of the details on the research has already been presented and is not presented again here. Moreover, fire-packed cotton bales (which are bales where fires have occurred, usually during the ginning process) are isolated and quarantined with densely-packed cotton bales. Therefore, it should be made clear that densely-packed cotton bales are hazardous materials.

The NFPA 1/UCF technical committee analyzed this issue also at its ROP meeting and concluded that combustible fibers should not be considered "hazardous materials" (when it accepted in principle several NFPA 1-186).

The Committee agrees with the submitter’s proposal to delete combustible fibers from being included in the requirements of regulated hazardous materials in Chapter 60. The Committee upon reviewing the recommendation and substantiation agree that combustible fibers by themselves are not hazardous, but the physical state they are in may cause the hazard. This is a similar situation for instance to the case of combustible dust. The Committee does not agree that combustible fibers should be regulated as a hazardous material, but that precautions are needed for the safe storage of the product. The protection features need to be outlined in a separate chapter. The Committee is moving Chapter 62 Combustible Fibers out of Part VI, Hazardous Materials, and renumber Part IV, Processes as a Procees, and Part V, Fire Control.

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The NFPA 1/UFC technical committee also stated, when rejecting NFPA 1-176: “The Uniform Fire Code Committee is trying to maintain consistency with NFPA 5000 in this area. These requirements will need to be correlated with NFPA 5000 at the comment stage. The existing text is coordinated with NFPA required means of egress independent of the material and the 5000 BLD-IND TC rejected a similar proposal. The NFPA 1 UFC Committee believes that the actions taken on Proposals 1-186 (Log #160) and 1-34 (Log #170) meet the submitter’s intent. This proposed code change would place a definition in a footnote, and this is not permitted in accordance with the NFPA MOS. This Committee recommendation, that compatibility with NFPA 5000 is not sufficient to introduce a new material of which the public would not have any advanced notice since the Proposal is tied to simply addressed revisions to 27.4.4.3.1 Types of Construction for mall buildings and attached anchor buildings and had nothing whatsoever to do with the occupancies allowed in those buildings. This is a significant expansion of the allowable uses in mall buildings without any technical justification provided to support such a change. Specifically, Section 4-4.3.2 Technical Committee of the Regulations Governing Committee Projects states: TC-generated Comments shall not introduce a concept that has not had public review.

Therefore, this Committee Comment should be deleted from the ROC and handled during the next revision cycle for NFPA 5000.

I also would like to offer the following comment:
If I were allowed to vote on this Committee Comment, I would vote to reject the action taken to revise the definition for “Anchor Building”, as well as the annex note to the definition for “Mall Building”, in NFPA 5000. I believe the Committee’s Action to generate this Committee Comment on Proposal 5000-793 is actually introducing new material of which the public would not have any advanced notice since the Proposal is tied to simply addressed revisions to 27.4.4.3.1 Types of Construction for mall buildings and attached anchor buildings and had nothing whatsoever to do with the occupancies allowed in those buildings. This is a significant expansion of the allowable uses in mall buildings without any technical justification provided to support such a change. Specifically, Section 4-4.3.2 Technical Committee of the Regulations Governing Committee Projects states: TC-generated Comments shall not introduce a concept that has not had public review.

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Therefore, this Committee Comment should be deleted from the ROC and handled during the next revision cycle for NFPA 5000.

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Therefore, this Committee Comment should be deleted from the ROC and handled during the next revision cycle for NFPA 5000.
The cotton industry has investigated the issue of "fire-packed cotton bales" from the restrictions associated with hazardous materials. This requires also adding definitions of baled cotton and amending the definition of combustible fiber. Even if proposal NFPA 5000-900 is accepted and "Maximum Allowable Quantity of Hazardous Materials per Control Area" are no longer applicable to storage or industrial occupancies, it would follow logically from the exclusion by the Uniform Fire Code committee of "combustible fibers" from the list of hazardous materials, that the table of hazardous materials should not include "densely-packed cotton bales", and perhaps should not include any "combustible fibers". In its statement when rejecting my proposal NFPA 5000-91, the technical committee on Industrial, Storage and Miscellaneous Occupancies stated that: The committee is of the opinion that cotton is more appropriately classified as a combustible fiber rather than a flammable solid. The committee further notes that baled cotton does present a fire hazard, and is associated with deep seated fires that are difficult to control and extinguish once ignited. The committee also notes that only small scale tests are referenced in the substantiation, and that requirements for sprinkler systems are also triggered by building height and area.

The technical committee is correct in stating that cotton (as densely-packed cotton bales) is not a flammable solid, but that it is a combustible fiber. The technical committee is also correct in talking about the requirements for sprinklers triggered by building height and area. However, the technical committee is incorrect when talking about the fire hazard of densely-packed cotton bales; most of the information traditionally available is anecdotal evidence which is no longer valid for densely-packed cotton bales. The committee on Industrial, Storage and Miscellaneous Occupancies stated that: Perhaps should not include any "combustible fibers".

"The Committee is of the opinion that cotton is more appropriately classified as a combustible fiber rather than a flammable solid. The committee further notes that baled cotton does present a fire hazard, and is associated with deep seated fires that are difficult to control and extinguish once ignited. The committee also notes that only small scale tests are referenced in the substantiation, and that requirements for sprinkler systems are also triggered by building height and area."

Several issues need to be presented to the committee:

1. After repeated experiments, the cotton industry has found that it is not possible to get a sustained fire (either smoldering or flaming) inside a cotton bale, unless the bale has a density of less than 14 lb/ft³. If the density is "high" or "very high", there is insufficient oxygen to sustain combustion. For that reason, the compression for "densely-packed cotton bales" was set at 22 lb/ft³ (360 kg/m³), giving a safety factor of > 50%. (2) Fires, therefore, will not occur in a "densely-packed cotton bale" but will only occur during the ginning operation, when cotton bales are being compressed. Once the cotton bale has been compressed to a sufficient density to create a "densely-packed cotton bale" an internal fire can no longer exist within the bale.

3. The US Department of Agriculture (Agricultural Handbook Number 503, W.S. Anthony and W.D. Mayfield editors, 1994, front page and second section as a pdf file) has issued the "Cotton Ginners Handbook", which contains a safety section that describes the procedures for isolating cotton bales when fires occur within the bale (before it has been compressed properly). These instructions, for the "ginner", the "press operator" and "other crew members" read as follows: "In the case where a fire occurs, the ginner and press operator should do the following:"

1. Sound the horn several times with many rapid blasts to alert the press man and the rest of the crew.
2. Shut off all heaters, V-trench conveyors, and seed conveyors.
3. Kick in the gin stands.
4. Run cotton from the feeder apron out onto the floor. Gin all cotton before shutting the gin down.
5. Wet down all burning cotton on the floor.
6. Move all the burned cotton to the outside of the gin, and put the cotton next to a water supply.
7. Shut down all gin equipment for cleanout. Press operator:
1. Stay with the press and battery condenser until the fire is out.
2. Wait until all the cotton is down the slide, and then turn the press and raise the bale out of the press.
3. Keep the trampers running if cotton is burning in the lint slide.
4. If a fire is in the battery condenser, wet down the areas around the flashing and rollers, and avoid letting the fire burn on the lint belt or near the luff fibers.
5. Isolate at least two bales before and after a suspected bale fire.

Other crew members:
1. The gin legal operator should stay with the lint cleaners until the fire is completely out. The operator/yard operator should move the module trailer out from under the shed. The module feeder operator should move the module away from the spike rollers to stop feeding seed cotton into the gin. All other crew members should report to the ginner. Only water should be used to put out cotton fires. Chemical fire extinguishers should be used on oil, gas, and electrical fires only.

The technical committee is also incorrect when discussing the fire tests conducted by the cotton industry: they were not small scale tests as most of the tests were conducted on full bales of cotton (500 pounds in weight and 55 in. long by 21 in. wide by 35 in. high). In fact, the cotton industry conducted significant fire research to demonstrate the low fire hazard associated with densely-packed baled cotton. ASTM E 1590 is a full scale heat release test that exposes a complete mattress to a significant flaming fire source, and in the cotton industry tests several fire tests were conducted to demonstrate the fire performance of cotton.

The NFPA 1/UFC technical committee analyzed this issue also at its ROP meeting. The committee and concluded that combustible fibers should not be considered "hazardous materials" (when it accepted in principle proposal NFPA 1-186). "The Committee agrees with the submitter’s proposal to delete combustible fibers from being included in the requirements of regulated hazardous materials in Chapter 60. The Committee upon reviewing the recommendation and consultation agreed that combustible fibers by themselves are not hazardous, but the physical state they are in may cause the hazard. This is a similar situation to dust producing processes. The Committee also noted that they do not agree that combustible fibers should be regulated as a hazardous material, but that precautions are needed for the safe storage of the product. The precautions features need to be outlined in a separate chapter."

The NFPA 1/UFC technical committee also stated, when rejecting NFPA 1-176: "The Uniform Fire Code Committee is trying to maintain consistency with NFPA 5000 in this area. These requirements will need to be correlated with NFPA 5000 at the comment stage. The existing text is coordinated with NFPA 5000 for the regulation of hazardous materials and the 5000 BLD-IND TC rejection a similar proposal. The NFPA 1 UFC Committee stated that the actions taken on Proposals 1-186 (Log #160) and 1-34 (Log #170) meet the submitter’s intent. This proposed code change would place a definition in a footnote, and this is not permitted in accordance with the NFPA MOS. This Committee is of the opinion, that cotton is more appropriately classified as a combustible fiber, rather than a flammable solid. The committee also notes that densely-packed baled cotton does present a fire hazard, and it is associated with deep-seated fires that are difficult to control and extinguish once ignited. The Committee also notes that the building height and area would trigger the requirement for a sprinkler system. The best way to coordinate this is to delete the text that "densely-packed cotton bales" are much less hazardous than normal baled cotton. Unfortunately, the NFPA 1 UFC technical committee also restated the incorrect anecdotal assumption that cotton bales present a fire hazard. As stated before, densely-packed baled cotton (meeting the size and weight requirements of ISO 8115) is not a hazardous material. This concept was accepted by the US Department of Transportation (US Coast Guard), the International
Maritime Organization (IMO) and the Uniform Fire Code committee. Currently, ninety-nine plus percent of all U.S. cotton is pressed and stored as densely-packed baled cotton. Those bales meet the weight and dimension requirements of ISO 8115 (Cotton Bales – Dimensions and Density).

The definition of combustible fibers should be amended to make it clear that densely-packed baled cotton is a very special type of combustible fibers, which is not easily ignitable and is not a hazardous material.

**COMMITTEE MEETING ACTION:** Accept in Principle

Delete the definition of “combustible fiber”, and delete the term “combustible fiber” in all locations it appears in NFPA 5000.

**COMMITTEE STATEMENT:** See Committee Action for Comment 5000-623.

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAI, WREN

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**5000-167 Log #460a BLD-FUN**

**FINAL ACTION:** Accept (3.3.111 Dangerous)

**SUBMITTER:** David S. Collins, The Preview Group, Inc.

**COMMENT ON PROPOSAL NO:** 5000-599

**RECOMMENDATION:** Modify 3.3.111 as follows:

3.3.111 Structurally Unsafe. That situation where the stresses in any member due to dead and live loads, the condition of the building or any of its components or elements or attachments, or other condition results in an overload exceeding 150 percent of the stresses allowed for in the member or material.

A 3.3.111 Structurally Unsafe. Where this Code does not include comprehensive information on materials stresses that may be found in existing structures (e.g., cast iron structures and structural clay tile), archives, materials, guides and references may be used to evaluate these materials with the approval of the AHJ.

**SUBSTANTIATION:** The Task Group on Structural Rehabilitation developed this comment to better coordinate Chapter 1 and Chapter 15. The Task Group agreed that this definition really only applies to the structural aspects of dangerous or unsafe buildings and elements and should be limited as such. Additionally, the definition was shortened and further focused on forces due to dead and live loads, versus lateral or environmental loads.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

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**5000-168 Log #460b BLD-STR**

**FINAL ACTION:** Accept (3.3.111 Dangerous)

**SUBMITTER:** David S. Collins, The Preview Group, Inc.

**COMMENT ON PROPOSAL NO:** 5000-599

**RECOMMENDATION:** Modify 3.3.111 as follows:

3.3.111 Structurally Unsafe. That situation where the stresses in any member due to dead and live loads, the condition of the building or any of its components or elements or attachments, or other condition results in an overload exceeding 150 percent of the stresses allowed for in the member or material.

A 3.3.111 Structurally Unsafe. Where this Code does not include comprehensive information on materials stresses that may be found in existing structures (e.g., cast iron structures and structural clay tile), archives, materials, guides and references may be used to evaluate these materials with the approval of the AHJ.

**SUBSTANTIATION:** The Task Group on Structural Rehabilitation developed this comment to better coordinate Chapter 1 and Chapter 15. The Task Group agreed that this definition really only applies to the structural aspects of dangerous or unsafe buildings and elements and should be limited as such. Additionally, the definition was shortened and further focused on forces due to dead and live loads, versus lateral or environmental loads.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

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**5000-170 Log #227a BLD-FUN**

**FINAL ACTION:** Accept (3.3.146 Dwelling Unit)

**SUBMITTER:** John D. Minick, National Electrical Manufacturers Association

**COMMENT ON PROPOSAL NO:** 5000-203A

**RECOMMENDATION:** Revise 3.3.146 as follows:

3.3.146 Dwelling Unit. One or more rooms arranged for the use of one or more individuals living together, providing complete, independent housekeeping purposes, with space for living facilities, including permanent provisions for living, eating, living, and sleeping, eating, facilities for housekeeping purposes, with space for living facilities, including permanent provisions for living, eating, living, and sleeping, eating, facilities for housekeeping purposes, with space for living facilities, including permanent provisions for living, eating, living, and sleeping, eating, facilities for

**SUBSTANTIATION:** The NEC TCC requested that Panels 1 and 2 and SAF/BLD-RES form a task group to revise and correlate the definition of Dwelling Unit. The task group met twice via teleconference calls along with numerous e-mails to resolve the issue. It is the task group’s opinion that this one definition will meet the needs of the NEC, NFPA 1, NFPA 101, and NFPA 5000 with regard to dwelling units. It believes that this definition does not change the intent of any of the codes, while at the same time simplifies and clarifies what a dwelling unit is and correlates the four documents. Members of the task group include David Hittinger and Lanny McMahl from NEC CMP-1, Donald King and Susan Porter from NEC CCM-1, and James Lathrop and Harry Bradley from the SAF/BLD-RES committee

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

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**5000-171 Log #227b BLD-RES**

**FINAL ACTION:** Accept (3.3.146 Dwelling Unit)

**SUBMITTER:** John D. Minick, National Electrical Manufacturers Association

**COMMENT ON PROPOSAL NO:** 5000-203A

**RECOMMENDATION:** Revise 3.3.146 as follows:

3.3.146 Dwelling Unit. One or more rooms arranged for the use of one or more individuals living together, providing complete, independent housekeeping purposes, with space for living facilities, including permanent provisions for living, eating, living, and sleeping, eating, facilities for

**SUBSTANTIATION:** The NEC TCC requested that Panels 1 and 2 and SAF/BLD-RES form a task group to revise and correlate the definition of Dwelling Unit. The task group met twice via teleconference calls along with numerous e-mails to resolve the issue. It is the task group’s opinion that this one definition will meet the needs of the NEC, NFPA 1, NFPA 101, and NFPA 5000 with regard to dwelling units. It believes that this definition does not change the intent of any of the codes, while at the same time simplifies and clarifies what a dwelling unit is and correlates the four documents. Members of the task group include David Hittinger and Lanny McMahl from NEC CMP-1, Donald King and Susan Porter from NEC CCM-1, and James Lathrop and Harry Bradley from the SAF/BLD-RES committee

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 25

**BALLOT RESULTS:** Affirmative: 21 Abstain: 1

**BALLOT NOT RETURNED:** 3 BONISCH, CONVERY, ONEISOM

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**5000-169 Log #36 BLD-RES**

**FINAL ACTION:** Accept in Principle (3.3.146 Dwelling Unit)

**SUBMITTER:** Technical Correlating Committee on Building Code

**COMMENT ON PROPOSAL NO:** 5000-203A

**RECOMMENDATION:** Revise the definition of Dwelling Unit as needed for correlation with NFPA 70, National Electrical Code (NEC).

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**SUBSTANTIATION:** The TCC learned at its ROP meeting [which occurred after the Technical Committee on Residential Occupancies (BLD-RES) held its ROP meeting] of the formation of a task group by the NEC project to address the definition of Dwelling Unit. As no new wording has yet been recommended for the definition, this proposal is shown as “Rejected.” This proposal was submitted by the TCC to permit the BLD-RES committee to make any needed changes to the definition of Dwelling Unit during ROC preparation.

**COMMITTEE MEETING ACTION:** Accept in Principle

See the action on Comment 5000-171.

**COMMITTEE STATEMENT:** The action on Comment 5000-171 revises the definition of ‘dwelling unit’ as requested by the Technical Correlating Committee.

**NUMBER ELIGIBLE TO VOTE:** 25

**BALLOT RESULTS:** Affirmative: 21 Abstain: 1

**BALLOT NOT RETURNED:** 3 BONISCH, CONVERY, ONEISOM

**EXPLANATION OF ABSTENTION:**

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.
SUBMITTER: Lanny G. McMullin Phoenix, AZ
COMMENT ON PROPOSAL NO: 5000-203A
RECOMMENDATION: Revise 3.3.146 as follows:
3.3.146 Dwelling Unit. One or more rooms arranged for the use of one or more individuals living together, providing complete, independent housekeeping purposes, with space for living facilities, including permanent provisions for living, eating, living, and sleeping, eating, facilities for cooking, and provisions for sanitation.

SUBSTANTIATION: The NEC TCC requested that Panels 1 and 3 and SAF/BLD-RES form a task group to revise and correlate the definition of “Dwelling Unit.” The task group met twice via teleconference calls along with exchanging several e-mails. The group discussed and debated many variations of the definition and eventually came to a reasonable compromise to resolve the issue. It is the task group’s opinion that this one definition will meet the needs of the NEC, NFPA 1, NFPA 101, and NFPA 5000 with regard to dwelling units. The task group believes that this definition does not change the intent of any of the codes, while at the same time simplifies and clarifies what a dwelling unit is and correlates the four documents. A few words have been deleted from the original definition, as they were considered unnecessary. Words added to the definition that provide clarification include “housekeeping” and “facilities.” “Housekeeping” meaning “to perform the routine duties (as cooking and cleaning) of managing a house, and “facilities” meaning “services and space and equipment provided for a particular purpose.”

COMMITTEE MEETING ACTION: Accept in Principle

BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-176 Log #38 BLD-FUR FINAL ACTION: Accept in Principle (3.3.146 Dwelling Unit)

SUBMITTER: Lanny G. McMullin Phoenix, AZ
COMMENT ON PROPOSAL NO: 5000-203A
RECOMMENDATION: Revise 3.3.146 as follows:
3.3.146 Dwelling Unit. One or more rooms arranged for the use of one or more individuals living together, providing complete, independent housekeeping purposes, with space for living facilities, including permanent provisions for living, eating, living, and sleeping, eating, facilities for cooking, and provisions for sanitation.

SUBSTANTIATION: The NEC TCC requested that Panels 1 and 3 and SAF/BLD-RES form a task group to revise and correlate the definition of “Dwelling Unit.” The task group met twice via teleconference calls along with exchanging several e-mails. The group discussed and debated many variations of the definition and eventually came to a reasonable compromise to resolve the issue. It is the task group’s opinion that this one definition will meet the needs of the NEC, NFPA 1, NFPA 101, and NFPA 5000 with regard to dwelling units. The task group believes that this definition does not change the intent of any of the codes, while at the same time simplifies and clarifies what a dwelling unit is and correlates the four documents. A few words have been deleted from the original definition, as they were considered unnecessary. Words added to the definition that provide clarification include “housekeeping” and “facilities.” “Housekeeping” meaning “to perform the routine duties (as cooking and cleaning) of managing a house, and “facilities” meaning “services and space and equipment provided for a particular purpose.”

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Comment 5000-171.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-204
RECOMMENDATION: Review their action with respect to the need to call out the referenced test standard.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

The committee has reviewed the term and recommends no further action.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-205
RECOMMENDATION: Review its action with respect to the need to call out the referenced test standard.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

The committee believes that reference to the test methods in the NEC 101. The committee believes that reference to the test methods is necessary in defining these two terms. No changes to the terms are recommended.

NUMBER ELIGIBLE TO VOTE: 11
BALLOT RESULTS: Affirmative: 11

5000-176 Log #39a BLD-FIR FINAL ACTION: Accept in Principle (3.3.340.10 Limited-Combustible (Material))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-213
RECOMMENDATION: Give consideration to Francis’ and Klein’s explanation of negative so as to make any needed changes. The TCC notes that the proposed change in Proposal 5000-213 may be an appropriate proposal to address the subject.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Add an annex note for the definition of the term Limited-Combustible (Material) to read as follows:

“The term limited-combustible is used in this code, it is also intended to include noncombustible.”

COMMITTEE MEETING ACTION: Accept in Principle

This meets the intent of the submitter.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-177 Log #39b BLD-BLC FINAL ACTION: Accept in Principle (3.3.340.10 Limited-Combustible (Material))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be maintained as ACCEPT IN PRINCIPLE and make the following revisions:

Add a reference to UL 723 and ASTM E 84 to Section 3.3.202. The TCC does not believe that the TC has provided compelling evidence to make a determination that UL 723 is not equivalent to NFPA 255. Also, see Comment 5000-174 which recognizes flame spread index and smoke developed index values from UL 723 as comparable to those from NFPA 255 or ASTM E 84.”

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-205
RECOMMENDATION: See the above recommendation.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-205
RECOMMENDATION: Give consideration to Francis’ and Klein’s explanation of negative so as to make any needed changes. The TCC notes that the proposed change in Proposal 5000-213 may be an appropriate proposal to address the subject.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

The committee has reviewed the term and recommends no further action.

COMMITTEE MEETING ACTION: Accept in Principle

See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

This meets the intent of the submitter.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-177 Log #39b BLD-BLC FINAL ACTION: Accept in Principle (3.3.340.10 Limited-Combustible (Material))
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Add the following annex note to 3.3.340.10:

A.3.3.340.10 Where the term limited-combustible is used in this code, it is intended to also cover the term non-combustible.

SUBSTANTIATION: The Technical Committee met the proponent’s intent by adding the recommended language as an annex note to the definition. However, the Technical Committee chose to retain the enforceable language in Section 7.1.4, which the original proponent of Proposal 5000-219 had recommended for deletion.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBARDO, FOSTER

5000-177a Log #CC851 BLD-FIR

COMMITTEE MEETING ACTION: Accept

(3.3.345 Membrane)

SUBMITTER: Technical Committee on Fire Protection Features

RECOMMENDATION: Revise the definition of membrane and add annex material for the term to read as indicated below:

3.3.345 Membrane. A thin layer of construction material.

A.3.3.345 For the purpose of fire protection features, a membrane can consist of materials such as gypsum classified, plywood, glass, fabric, etc. For the purpose of membrane structures, a membrane consists of thin, flexible, water-impermeable material capable of being supported by an air pressure of 1-1/2 inch (38 mm) water column.

SUBSTANTIATION: This provides a more comprehensive definition for the term membrane that is in compliance with NFPA’s Manual of Style, and places advisory information in the annex.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 22

5000-178 Log #B858 BLF-FIR

COMMITTEE MEETING ACTION: Accept

(3.3.371.12 Residential Board and Care Occupancy)

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

RECOMMENDATION: Reconsider.

SUBSTANTIATION: Actual experience shows that patients with profound mental, physical and developmental disabilities are being placed in Board and Care facilities. Custodial care occurs in both impractical Board and Care and in Limited Care Health Care, with and without licensed medical care. As stated by the proponent, occupancy classification should always be based on the use of a building or not on what it is called. The self-preservation capabilities of occupants in impractical Board and Care are indistinguishable from those in Limited Care Health Care. Either impractical B&C is limited care, or the threshold between the two needs to be made distinct.

The proposed definition was based on the International Building Code approach. The IBC definition makes the distinction of occupancy by self-preservation capability clearly apparent and simplifies code application. Facilities constructed in accordance with the national building codes classify impractical Board & Care equivalent facilities as institutional by use. This clarity of definition also simplifies the criteria for assessing when diminishing occupant capabilities render a facility inappropriate for that level of care.

Prior committee actions eliminating evacuation capability evaluations from new Board and Care indicates the committees’ intent to clean up the extremely variable, evacuation capability concept. This proposed revised definition completes this effort by standardizing the same occupant self-preservation capability to existing facilities.

The Board and Care occupancy fundamentally contradicts its own intentions by identifying occupants as impractical to evacuate; yet requires their movement to a point of safety, while Health Care takes similarly incapable occupants and defends them in place. Impractical residents should not be afforded different levels of safety because of occupancy. That is contrary to occupancy based fire protection. This proposal corrects the definition of Board and Care on the basis of the occupants’ capability for self-preservation.

COMMITTEE MEETING ACTION: Reject

COMMITTEE MEETING ACTION: A definition is not the appropriate place to equalize the requirements for new board and care (Chapter 26 of NFPA 5000 and Chapter 32 of NFPA 101) and existing board and care (Chapter 33 of NFPA 101). It is better to let the Code requirements, not the definitions, address the subject.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-180 Log #B584e BLD-BCF

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

RECOMMENDATION: Reconsider.

SUBSTANTIATION: Actual experience shows that patients with profound mental, physical and developmental disabilities are being placed in Board and Care facilities. Custodial care occurs in both impractical Board and Care and in Limited Care Health Care, with and without licensed medical care. As stated by the proponent, occupancy classification should always be based on the use of a building or not on what it is called. The self-preservation capabilities of occupants in impractical Board and Care are indistinguishable from those in Limited Care Health Care. Either impractical B&C is limited care, or the threshold between the two needs to be made distinct.

The proposed definition was based on the International Building Code approach. The IBC definition makes the distinction of occupancy by self-preservation capability clearly apparent and simplifies code application. Facilities constructed in accordance with the national building codes classify impractical Board & Care equivalent facilities as institutional by use. This clarity of definition also simplifies the criteria for assessing when diminishing occupant capabilities render a facility inappropriate for that level of care.

Prior committee actions eliminating evacuation capability evaluations from new Board and Care indicates the committees’ intent to clean up the extremely variable, evacuation capability concept. This proposed revised definition completes this effort by standardizing the same occupant self-preservation capability to existing facilities.

The Board and Care occupancy fundamentally contradicts its own intentions by identifying occupants as impractical to evacuate; yet requires their movement to a point of safety, while Health Care takes similarly incapable occupants and defends them in place. Impractical residents should not be afforded different levels of safety because of occupancy. That is contrary to occupancy based fire protection. This proposal corrects the definition of Board and Care on the basis of the occupants’ capability for self-preservation.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The comment is rejected for the following reasons:
1. As submitted, the definition would force many board and care facilities to be classified as health care occupancies. In some cases, this can decrease the level of protection (e.g. fewer requirements for smoke detection).
2. The Code allows the authority having jurisdiction to make the final determination of occupancy classification. If the AHJ determines a facility meets the definition of a limited care facility, it should be classified as health care.
3. The Code has always assumed board and care facility occupants might require staff assistance to relocate to a point of safety. The committee notes that like board and care occupants, health care occupants might be required to relocate to a point of safety depending on the fire location and severity. The Code does not assume all health care occupants will be protected in place without moving, or being moved, to an adjoining smoke compartment.

BALLOT NOT RETURNED: BALLOT NOT RETURNED: BALLOT NOT RETURNED:
NUMBER ELIGIBLE TO VOTE: 13
BALLOT RESULTS: Affirmative: 12
BALLOT NOT RETURNED: 1 HOFFMAN

5000-182 Log #522a BLD-FUN FINAL ACTION: Accept in Principle
(3.3.371.14.1 Mini-Storage Facility)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE – See the committee action on 5000-182 and 5000-565.”

SUBMITTER: James Everitt, Western Regional Fire Code Development Committee

COMMENT ON PROPOSAL NO: 5000-224
RECOMMENDATION: Reconsider the revised definition of mini-storage facility to read:
Mini-Storage Facility. A storage occupancy, which are not owner occupied, partitioned into areas which are rented or leased by individuals or companies for the purpose of storing personal or business items.

SUBSTANTIATION: A version of the original wording was accepted by the fire code TC. This revised definition has been submitted to the fire code as well. For correlation the proposed definition should be accepted into NFPA 5000.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The term Mini-Storage Facility is not used in the Code.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-182 Log #522b BLD-IND FINAL ACTION: Accept in Principle
(3.3.371.14.1 Mini-Storage Facility)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be maintained as ACCEPT IN PRINCIPLE and that the following revisions be made:
3.3.138.25.1 Mini-Storage Building. A storage occupancy partitioned into areas which are rented or leased by individuals or companies for the purpose of storing personal or business items.

SUBSTANTIATION: The definition proposed by the technical committee is too broad and would encompass storage occupancies other than those that are intended to be classified as “mini-storage buildings.”

Public warehouses have storage units that are not owner occupied. In some cases, a public warehouse will have non-fire-rated partitions to subdivide storage units. As such, these public warehouses would be included in the proposed definition of mini-storage buildings.

The characteristics of public warehouses are very different from mini-storage facilities or self-storage facilities. It was not the intent to include public warehouses in the definition of mini-storage buildings.

The currently proposed definition should be rejected. In future revisions of the code, the following definition might be proposed:
Mini-Storage Building: Structures with self-storage spaces designed and used for the purpose of renting or leasing individual storage space to tenants who have access to such space for the purpose of storing and removing personal property.

COMMENTS:
FLUER: I am submitting a negative comment for ROC Ballot items 5000-182 and 5000-565.

The proposal indicates intent to focus only for requirements for the installation of automatic sprinkler system in “mini-storage” facilities or buildings, but the definition is too broad as written. As defined the provisions would also apply to occupancies such as (examples) those shown below:
• Business occupancy, where an above grade tenant may have storage space in the below grade floors.

• Residential occupancy, such as two-family and multi-family that comply with the requirements that do not require sprinklers, but where the basement area is devoted to storage for the tenants.

The proposal also indicated an increased risk with this type of specific occupancy, but it remains unclear why this specific occupancy is of a greater risk than the limits currently required in the storage occupancies of the same category. It is also unclear why the instances cited are only applicable to mini-storage buildings or facilities.

To be clear, this negative is not related to liking or disliking automatic sprinklers. In this case, this proposal requires further work in order to be considered reasonably complete.

KLEIN: Please register my vote as negative on these two code comments. Comment 5000-182 is a comment adding a definition for “Mini-Storage Building” and Comment 5000-565 will require all mini storage buildings over 2500 square feet to be sprinklered. I am certainly not against sprinklers, but the threshold for sprinklers in storage occupancies was established at 12,000 square feet in NFPA 5000 (as well as in other model building codes such as BOCA National & IBC) and the justification used to establish a lower sprinkler threshold for this new subclassification (mini-storage building) of a storage occupancy has not been justified. The only substantiation given was for correlation with the next edition of NFPA 1, which has added this definition and has also applied requirement. I question whether NFPA 1, within its scope, has the authority to add such a definition or sprinkler requirement on this issue, but that is a subject for the NFPA 5000 TCC and NFPA 1 Committee to potentially iron out. Technically, based on this new definition being proposed/accepted in NFPA 5000, I believe it is vague enough to be made applicable to any storage use that is more than one tenant. The substantiation of the proponents that the hazard in a mini-storage building is “…much greater…” than in any other type of multi-storage building is also not substantiated by any fire data. If the 2500 square foot threshold is “reasonable” for a “mini-storage building”, then it should be “reasonable” for ALL storage uses. I would doubt that our Committee would have approved this lower sprinkler threshold for ALL storage uses. Therefore to apply a special sprinkler threshold only for mini-storage buildings is inappropriate at this time without fire data substantiating such a change in the Code.

SKALKO: I agree with Holmes and Humble that the definition of “mini-storage buildings” is too broad.

5000-182a Log #CC153 BLD-FUN FINAL ACTION: Accept in Principle
(3.3.371.14.1 Mini-Storage Facility)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be maintained as ACCEPT IN PRINCIPLE – See related comments on 5000-181 and 5000-565.

SUBMITTER: The Technical Correlating Committee on Fundamentals

COMMENT ON PROPOSAL NO: 5000-171
RECOMMENDATION: Revise as follows:
Permanent. Any object that is intended to remain in place for more than 180 days in any consecutive 12 month period.

Permanent Structure. A building or structure that is intended to remain in place for a period of more than 180 consecutive days in any consecutive 12 month period.

SUBSTANTIATION: The “180 consecutive days” criterion is abused by those who, for example, take down a tent after 179 days, wait a day, and then re-erect the tent so as not to have to meet the requirements applicable
to a permanent structure. The definition of Permanent needs revision for consistency. The action on this comment is consistent with changes being made to the definition of Permanent Structure in NFPA 101. See Comment 101-35.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 20 Negative: 1

BALLOT NOT RETURNED: 2 ALLEN, WATTS

COMMITTEE STATEMENT: Inadequate substantiation for the change requested. See Committee Statement for the rejection of ROP Proposal 5000-654.

NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 24

BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-184a Log #CC11 BLD-STR

FINAL ACTION: Accept (3.3.530.12)

SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-238

RECOMMENDATION: Reject the action taken on Proposal 5000-238.

SUBSTANTIATION: In Proposal 5000-967, the Technical Committee change the term to ‘roof structure.’

RECOMMENDATION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

5000-185 Log #40 BLD-BSF

FINAL ACTION: Accept in Principle (3.3.536(1) Automatic Fire Extinguishing System)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-239

RECOMMENDATION: Review this action and determine if a further change is necessary to add the preferred definition from NFPA 1141.

SUBSTANTIATION: See the above recommendation.

RECOMMENDATION: Accept in Principle

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MC DANIEL, WREN

5000-186 Log #41 BLD-FUN

FINAL ACTION: Accept in Principle (4.1.1, 4.1.6 and 5.2.12)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-245

RECOMMENDATION: 1. Form the Task Group noted in the committee statement to study and refine the issues. The TCC requests that NFPA staff prepare a three column comparison based upon the ROP preparation to show how the related goals and objectives appear between the three codes.

SUBSTANTIATION: See the above recommendation.

SUBSTANTIATION: The committee reviewed its action on Proposal 5000-239 and stands on its previous substantiation.

NUMBER ELIGIBLE TO VOTE: 17

BALLOT RESULTS: Affirmative: 16

5000-186a Log #CC2 BLD-STR

FINAL ACTION: Accept (4.1.3.2.2.1)

SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Modify 4.1.3.2.2.1 as follows:

4.1.3.2.2.1* Buildings shall be designed and constructed to withstand the dead weight of the building and its contents together with the live, impact, soil and hydrostatic pressures. (rain, snow and loads specified in Chapter 35 or, for existing buildings, Chapter 15, as well as loads due to earthquake).
and wind that are expected to regularly affect the building, without damage or excessive deformation or deflection.

**SUBSTANTIATION:** This modification cleans up the section and sends the user to either Chapter 35 or Chapter 15 without providing a laundry list of loads that will need to be maintained in future editions of NFPA 5000.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 27

**BALLOT RESULTS:** Affirmative: 21 Abstain: 1

**BALLOT NOT RETURNED:** 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

**EXPLANATION OF ABSTENTION:**

**JONES:** See my Explanation of Abstention on Comment 5000-4.

**COMMENT ON AFFIRMATIVE:**

**NACHEMAN:** See my Affirmative with Comment on 5000-4.

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**5000-187 Log #461a BLD-STR**

**FINAL ACTION:** Accept (4.1.3.2.2.1)

**SUBMITTER:** David S. Collins, The Preview Group, Inc.

**COMMENT ON PROPOSAL NO:** 5000-599

**RECOMMENDATION:** Modify 4.1.3.2.2.1 as follows:

4.1.3.2.2.1* Buildings shall be designed and constructed to withstand the dead weight of the building and its contents together with the live, impact, soil and hydrostatic pressure, rain, flood, snow, and ice loads specified in Chapter 35 or, for existing buildings, Chapter 15, as well as loads due to earthquake and wind that are expected to regularly affect the building, without damage or excessive deformation or deflection.

**SUBSTANTIATION:** The Task Group on Structural Rehabilitation developed this comment to recognize the use of Chapter 15 for existing buildings undergoing rehabilitation.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

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**5000-188 Log #461b BLD-FUN**

**FINAL ACTION:** Accept (4.1.3.2.2.1)

**SUBMITTER:** David S. Collins, The Preview Group, Inc.

**COMMENT ON PROPOSAL NO:** 5000-599

**RECOMMENDATION:** Modify 4.1.3.2.2.1 as follows:

4.1.3.2.2.1* Buildings shall be designed and constructed to withstand the dead weight of the building and its contents together with the live, impact, soil and hydrostatic pressure, rain, flood, snow, and ice loads specified in Chapter 35 or, for existing buildings, Chapter 15, as well as loads due to earthquake and wind that are expected to regularly affect the building, without damage or excessive deformation or deflection.

**SUBSTANTIATION:** The Task Group on Structural Rehabilitation developed this comment to recognize the use of Chapter 15 for existing buildings undergoing rehabilitation.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 27

**BALLOT RESULTS:** Affirmative: 21 Abstain: 1

**BALLOT NOT RETURNED:** 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

**EXPLANATION OF ABSTENTION:**

**JONES:** See my Explanation of Abstention on Comment 5000-4.

**COMMENT ON AFFIRMATIVE:**

**NACHEMAN:** See my Affirmative with Comment on 5000-4.

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**5000-189 Log #585 BLD-FUN**

**FINAL ACTION:** Reject (4.4.1)

**SUBMITTER:** Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

**COMMENT ON PROPOSAL NO:** 5000-248

**RECOMMENDATION:** Revise: Multiple safeguards should be both passive fire protection features as identified in Chapter 8 and active fire protection systems features as identified in Chapter 55 used in combination, without placing total reliance on either one.

**SUBSTANTIATION:** Acknowledging Mr Wills ROP comment, the terminology is expanded for clarity.

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The proposed annex text is not being added. See action on Comments 5000-756 through 5000-759 which reject Proposal 5000-248

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 20 Negative: 1

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

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**5000-190 Log #320 BLD-FUN**

**FINAL ACTION:** Reject (4.4.2)

**TCC Action:** The Technical Correlating Committee (TCC) notes that this comment did not receive the necessary 2/3 agreement to confirm the committee action of accept, thus the final action is REJECT. The original action on proposal 5000-249 is upheld as shown in the ROP.

**NOTE:** Since the ballot on this Comment did not confirm the Committee Action, the comment is being rejected.

**SUBMITTER:** Salvatore DiCristina, Rutgers, The State University of New Jersey / Rep. NFPA Building Code Development

**COMMENT ON PROPOSAL NO:** 5000-249

**RECOMMENDATION:** Reverse the action taken by the committee.

**SUBSTANTIATION:** The capabilities of fire department services are dynamic and difficult to quantify. We concur with the dissenting committee members.

**COMMITTEE MEETING ACTION:** Accept

**RECOMMENDATION:** Reject Proposal 5000-249 so as NOT to add a new item (5) Capabilities of response personnel.

**COMMITTEE STATEMENT:** The action should meet the submitter’s intent.

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 13 Negative: 8

**BALLOT NOT RETURNED:** 2 ALLEN, WATTS

**EXPLANATION OF ABSTENTION:**

**CARSON:** Response personnel can be a significant part of the response to a fire or other emergency. Response personnel do not just include fire department but also include in-house personnel. NFPA 5000 includes reference to staff actions in several locations including:

4.4.3.2 Unobstructed Egress: “No lock or fastening shall be permitted that prevents free escape from the inside of any building other than in health care occupancies and detention and correctional occupancies, where staff are customarily on duty and effective provisions are made to remove occupants in case of fire or other emergency.” Staff is assumed available to unlock doors.

5.4.3.6 Staff Assistance, “In those occupancies where staff assistance is required to ensure the safety of other occupants, such trained assistance shall be provided. The ability of trained employees to be included as part of the building safety system shall be identified and documented.” The importance of staff is included in the performance based requirements.

18.6.1.7.1 “In family day-care homes, the minimum staff-client ratio shall be no less than one staff person for up to six clients, including the caretaker’s own children under age six. There shall be no more than two clients incapable of self-preservation.” Staff is required in this occupancy in order to assist with evacuation.

18.2.2.7.2 Bathroom Doors, “Every bathroom door lock shall be designed to allow opening of the locked door from the outside in an emergency. The opening device shall be readily accessible to the staff.” Staff must be present to unlock the doors.

19.1.1.1.9: “it shall be recognized that the requirements of this chapter are based on the assumption that staff is available in all patient-occupied areas to perform certain fire safety functions.” Staff is actually required by this code section.

19.1.1.3(3): “Fire prevention; planning, training, and drilling in programs for the isolation of fire, transfer of occupants to areas of refuge, or evacuation of the building.” All of these are accomplished by staff.

19.2.2.2.1(1) & (2): Both sections include reference to staff locking and unlocking doors.

19.2.1.1.6: ”This section again assumes that staff must be present at all times to perform certain functions.”

34.3.7.2.5 Emergency Control Station.

“An emergency control station shall be provided on the premises at an approved location, outside of the fabrication area, and shall be continuously staffed by trained personnel.”

There are many other sections of NFPA 5000 that specifically reference the intervention of humans in providing some fire safety function. (All of these references are not listed here for the sake of brevity, but NFPA 5000 includes approximately 35 references to staff performing some emergency function) Deleting the reference to response personnel is in direct conflict with requirements presently in the Code.

**CHENG:** It is my opinion that “capability of response personnel” contributes to the level of safety for an individual building or structure and its occupants. Therefore due regards should be given to the “capability of response personnel”.

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5000-72
SUBMISSION: While well intentioned, I believe that the inclusion of item 5 is unrealistic. The capability of response personnel can fluctuate over a short period of time due to a number of reasons. It is unrealistic to believe that every building will be reevaluated based on these fluctuations in capabilities. In addition, while this linkage of building safeguards and response capability may be significant for buildings designed using various performance-based approaches, it is unrealistic and potentially unnecessary for the vast majority of buildings constructed using prescriptive code provisions.

COMMITTEE MEETING ACTION: Accept

Proposal 5000-249 so as NOT to add a new item (5) Capabilities of response personnel.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 13 Negative: 8

BALLOT OF NOT RETURNED: ALLEN, WATTS

EXPLANATION OF NEGATIVE:

CARSON: See my Explanation of Negative on Comment 5000-190.

CHENG: See my Explanation of Negative on Comment 5000-190.

GREENE: The capabilities of response personnel are a dynamic variable. This variable will change over time. It is influenced by budgets, growth and other demands on the fire service. It is unreasonable to assume you can predict what the capabilities will be in 5 years or 10 years. The building safeguards should be intrinsic to the building not based upon outside factors that will change with time.

GRENER: Comment 5000-191 states that the “capability of response personnel” can fluctuate over a short period of time due to a number of reasons,” but what are these reasons and where is the evidence? Following this logic, the number of occupants and their capabilities should also be deleted from the list. Making valid judgments about the appropriateness of safeguards simply depends on being sufficiently conservative to compensate for fluctuations. Research on actual fires has repeatedly documented that well-trained onsite staff often plays an essential role for which hardware-based systems cannot be substituted.

In both health care and in detention and correctional occupancies, there are “appropriate consideration,” so one is not realistically expected to predict the future, but it is reasonable to consider what is known at a given time. Incidentally, one possible partial fix is to replace the word, “capabilities” (which is also used in item 2), with a broader term such as “role” or “roles.” Response personnel role(s) can be more readily identified than can capabilities.

SKALKO: The explanations for the negative ballots by Groener, Lathrop, Pauls, and Thornberry present good reasons why the provisions of 4.4.2 should include the capabilities of response personnel in the consideration of appropriate safeguards for fire and life safety in buildings. The Committee proposal should be accepted as originally approved.

THORNBERRY: I believe the Committee has missed the point of the Proposal which was to recognize the response capability of the “response personnel” and not to set an arbitrary value. It is unrealistic to believe that the capabilities will be in 5 years or 10 years. The building safeguards should be intrinsic to the building not based upon outside factors that will change with time.

LATHROP: First, the commentors primarily refer to fire dept personnel. In both health care and in detention and correctional occupancies, there are in-house personnel that the Code does rely on. In addition, the Code does recognize fire dept personnel to some degree, especially in NFPA 5000, in that exposure distances would have to be significantly larger if we assumed there was no fire dept response. The fact that we allow a Class 1 standpipe without a fire pump for low-rise buildings implies that we are relying on the fire dept. I am not an advocate of deleting basic fire protection, because “there is a fire house across the street,” but we must acknowledge that the Code does, in fact, recognize fire dept. response to some extent.

PAULS: I am opposed to FUN TC action at the ROC stage that reverses its earlier action at ROP stage. First, “response personnel” includes more than only the fire services. Those coming from outside the building also include EMS and police personnel. On site, there may also be fire safety directors. Second, those opposed have complained about fluctuations over time; this is true of items in the list. Third, those opposed have not attacked the last item, “other factors necessary to provide occupants with a reasonable degree of safety,” which covers a broad array of factors that can also fluctuate over time. Finally, the requirement refers to “due regard” which, among other things, could mean “appropriate consideration,” so one is not realistically expected to predict the future, but it is reasonable to consider what is known at a given time. Incidentally, one possible partial fix is to replace the word, “capabilities” (which is also used in item 2), with a broader term such as “role” or “roles.” Response personnel role(s) can be more readily identified than can capabilities.

In addition, while this linkage of building safeguards and response capability may be significant for buildings designed using various performance-based approaches, it is unrealistic and potentially unnecessary for the vast majority of buildings constructed using prescriptive code provisions.
COMMITTEE MEETING ACTION: Accept
Reject Proposal 5000-249 so as NOT to add a new item (5) Capabilities of response personnel.

COMMITTEE STATEMENT: The action should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Precedent 14 Negative: 7

BALLOT NOT RETURNED: 2 ALLEN, WATTS

EXPLANATION OF NEGATIVE:

CARSON: See my Explanation of Negative on Comment 5000-190.

CHENG: See my Explanation of Negative on Comment 5000-190.

CINGRANER: The requirements in Chapter 4 are “general,” that is, intended to provide perspective and orientation for the entire code. As such, code language should NOT preserve the fiction that human response capabilities are beyond the scope of code provisions and that codes should only cover the physical components of the building.

More specifically, in many settings, the “appropriateness of safeguards” inextricably depends on the “capabilities of response personnel.” The committee was originally correct in including “response personnel” in the list of factors that need to be considered when judging the appropriateness of safeguards.

The commenter seems to confuse the list of factors in 4.5.2 with the safeguards. However, the safeguards are not listed, only the factors that should be taken into consideration when judging the appropriateness of various safeguards.

LATHROP: First, the commenters primarily refer to fire dept. personnel. In both health care and detention and correctional occupancies, there are in-house personnel that the Code does rely on. In addition, the Code does recognize responding fire dept personnel to some degree, especially in NFPA 5000, that in exposure distances would have to be significantly larger if we assumed there was no fire dept response. The fact that we allow a Class 1 standpipe without a fire pump for low-rise buildings implies that we are relying on the fire dept. The fact that we allow Class 1 standpipes at all implies we are relying on the fire dept. I am not an advocate of deleting basic fire protection, because “there is a fire house across the street,” but we must acknowledge that the Code does, in fact, recognize fire dept. response to some extent.

PAULS: I am opposed to FUN TC action at the ROC stage that reverses its earlier action at ROP stage. First, “response personnel” includes more than only the fire services. Those coming from outside the building also include EMS and police personnel. On site, there may also be fire safety directors. Second, those opposed have complained about fluctuations over time; this is true of other items in the list. Third, those opposed have not attacked the last item, “Other factors necessary to provide occupants with a reasonable degree of safety,” which covers a broad array of factors that can also fluctuate over time. Finally, the requirement refers to “due regard” which, among other things, could mean “appropriate consideration,” so one is not realistically expected to predict the future, but it is reasonable to consider what is known at a given time.

Indeed, one possible partial fix is to replace the word, “capabilities” (which is also used in item 2), with a broader term such as “role” or “roles.” Response personnel role(s) can be more readily identified than can capabilities.

SKALKO: The explanations for the negative ballots by Lathrop, Pauls, and Thornberry present good reasons why the provisions of 4.4.2 should include the capabilities of response personnel in the consideration of appropriate safeguards for fire and life safety in buildings. The comment should be rejected and the original committee language for 4.4.2 be retained.

THORNBERRY: See my Explanation of Negative on Comment 5000-190.

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised as ACCEPT to REJECT. Related comments 5000-190 and 5000-191 did not achieve the 2/3 agreement on this subject resulting in a final action of REJECT.

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-249

RECOMMENDATION: Delete, as Capabilities of response personnel

SUBSTANTIATION: This item should be deleted unless response personnel are physically present at all times that the building is occupied. All of the safeguards of this document refer to features physically inherent and internal to the building. As stated by Mr Wills, external resources are too variable to depend upon on an equitable basis.

Accepted proposal 101-75 #335 “Continuous maintenance of requirements developed as part of a performance based design would be virtually impossible to enforce when applied to municipal response capabilities.

TCC Action: The Technical Correlating Committee (TCC) directs that this action be maintained as ACCEPT in PART but that the committee action be revised to read:

4.4.6 System Design/Installation. Any fire protection system, building service equipment, feature of fire protection, or safeguard provided to achieve the goals of this code shall be designed, installed, and approved in accordance with applicable appropriate codes and standards referenced in Chapter 2. The TCC believes 'appropriate' better describes the intent.

SUBMITTER: Ronald R. Farr, Kalamazoo Township Fire Department

RECOMMENDATION: Revise proposed wording of 4.4.6 in the ROP to read as follows:

4.4.6 System Design/Installation. Any fire protection system, building service equipment, feature of fire protection, or safeguard provided to achieve the goals of this code shall be designed, installed, and approved in accordance with applicable codes and standards referenced in Chapter 2.

SUBSTANTIATION: This comment was generated by the Uniform Fire Code Committee at its ROP meeting and is submitted by the Committee Chair as directed by the Committee. It is submitted in an effort to make NFPA 5000 consistent with similar wording used in NFPA 1 UFC.
COMMITTEE MEETING ACTION: Accept in Part
Revise 4.4.6 to read as follows:

4.4.6 System Design/Installation. Any fire protection system, building service equipment, feature of fire protection, or safeguard provided to achieve the goals of this Code, shall be designed, installed, and approved in accordance with appropriate NFPA codes and standards.

COMMITTEE STATEMENT: The submitter’s use of only documents referenced in Chapter 2 is too restrictive. The committee means for 4.4.6 to be general in nature.

5000-195 Log #321 BLD-FUN
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-196 Log #322 BLD-FUN
COMMITTEE STATEMENT: The submitter’s introduction of the words "the majority of such occupants are mostly incapable of self preservation..."

RECOMMENDATION: Reconsider the proposal with the following revisions: Revise to read as follows:

6.1.5.1 and 6.1.7.1 ... where the majority of such occupants are mostly incapable of self preservation...

STATIONMENT: The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term. The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term. The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term. The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term.

COMMITTEE MEETING ACTION: Rejct
COMMITTEE STATEMENT: The committee motion as to the term “mostly” in the definition of 5000-196-271 needs to stand. In the ROP, BLD-FUN acted on Proposal 5000-275 "without prejudice" so as to defer to the expertise of BLD-IND.

RECOMMENDATION: Accept the original proposal as it was submitted, and modify the definition to include “telecommunications signal processing.” Do not put the term in the annex.

COMMITTEE STATEMENT: The reason the TC on Telecommunications submitted this proposal was to add another “process” to the definition. The definition has always addressed processes, such as assembling and packaging, and “telecommunications signal processing” is a process. The appendix addresses occupancies, instead of processes, such as beverages, foundries, and glass products. Number 9 in the existing annex list is “telephone exchanges,” the word “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term. The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term. The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term. The term “mostly” violates Table 2.2.3.3 of the Manual of Style as an unenforceable and vague term.

COMMITTEE MEETING ACTION: Rejct
COMMITTEE STATEMENT: The action by BLD-IND on Proposal 5000-276 needs to stand. In the ROP, BLD-FUN acted on Proposal 5000-275 “without prejudice” so as to defer to the expertise of BLD-IND.

RECOMMENDATION: Accept the original proposal as it was submitted, and modify the definition to include “telecommunications signal processing.” Do not put the term in the annex.

COMMITTEE MEETING ACTION: Rejct
COMMITTEE STATEMENT: The action by BLD-IND on Proposal 5000-276 needs to stand. In the ROP, BLD-FUN acted on Proposal 5000-275 “without prejudice” so as to defer to the expertise of BLD-IND.

RECOMMENDATION: Accept the original proposal as it was submitted, and modify the definition to include “telecommunications signal processing.” Do not put the term in the annex.

COMMITTEE MEETING ACTION: Rejct
COMMITTEE STATEMENT: The committee believes that the proposed text is too broad and that it could be interpreted to include telephone switchgear closets in various occupancies.
COMMITTEE STATEMENT:

COMMITTEE STATEMENT: The heading of Section 6.2.3 is Mixed Occupancies. This means that all of the following subsections apply to all mixed occupancy buildings. Without the qualifier added through this proposal, confusion could cause an AHJ to apply all high rise building provisions to all mixed occupancy buildings.

SUBSTANTIATION: I do not support the inclusion of the proposed new Annex. Contrary to the TCC position, the proposals that would have replaced Chapter 7 with these new requirements were rejected by the TC. As such, the TC did not have sufficient confidence in this approach to make it part of the NFPA 5000 Code itself. Yet this proposal, as crafted, does not, in my opinion, meet this test. Specifically, it is inappropriate to add a new 7.1.1.1 that directs the user of NFPA 5000 to the new Annex X and effectively makes it a part of the code by designating it as an alternate method. Similarily, the italicized text inserted in the beginning of Annex X states: “This Annex is part of the requirements of this code,” needs to be removed. If this proposal is to be incorporated as an annex to NFPA 5000, it should be handled similarly to Annexes B and C, which are structured so that individual jurisdictions choosing to adopt those provisions can do so if they desire. Most jurisdictions adopt codes under the presumption that Annexes and Appendices are not a part of the Code unless specifically included in the adopting ordinance. It is inappropriate to be forcing jurisdictions that do not wish to adopt this unproven approach to take an action that would allow them to be inadvertently adopted by a jurisdiction which would then have to accept it as an alternate method for determining the type of construction and the height and area of a building. This may happen because most jurisdictions adopt codes under the presumption that Annexes (Appendices) are not a part of the code unless specifically included in the adopting ordinance.

I believe it was the intent of the Task Group that worked on this annex to simply have it available as an annex which could be evaluated by any jurisdiction which is intending to adopt NFPA 5000. Then the jurisdiction could make a conscious decision to adopt the annex if the jurisdiction felt it was appropriate to use as an alternate method. This would require a provision in the adopting ordinance that would specifically state that Annex X was being adopted as part of the code. I believe it would be preferable, if it is the Committee’s desire to see Annex X incorporated into NFPA 5000, to have it available as an optional Annex that could then be evaluated and reviewed by the jurisdiction of NFPA 5000 to determine on a case-by-case basis if it is suitable for designing buildings as an alternate to Chapter 7.

Although I can’t speak for the other members of the Task Group, I believe there is general feeling that this proposal still needs quite a bit of work to validate its intended use and to further refine and substantiate the concepts used to develop the proposal. At this point in time I do not feel confident enough that the technical aspects of the proposal have been fully evaluated and thought through so as to how the proposal will impact the design of buildings for the purpose of determining their allowable heights and areas based on their type of construction. I would feel more comfortable allowing another year to pass before including this proposal in an annex. This would permit the Task Group to continue its work on this proposal so that we can more fully explore the concepts behind this proposal and better ascertain the potential impacts this proposal will have on the design of new buildings. In other words, I believe that this Annex is premature, especially if it is being incorporated as an alternate method by the addition of Section 7.1.1.1 to NFPA 5000.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. These concepts were created by the Task Group on Heights and Areas. The Technical Committee recommended approval (16-3), and the TCC agreed. Although the Technical Committee did not remove the current criteria for heights and areas, it did approve the inclusion of the concepts in an Annex and a reference to that Annex in the main body of the code. Also, the concept of construction type limitations was incorporated in the overall maximum number of compartments and height of a building. The Technical Committee recognizes that the code is a living document and that additional work may need to be done in the future to further refine this concept.

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.


COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee recognizes that the code is a living document and that additional work may need to be done in the future to further refine this concept.

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.


COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.


COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.


COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.

SUBMITTER: Lawrence V. DiCristina, Rutgers University / Rep. NFPA Building Code Development

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.


COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The Technical Committee deliberately chose to put the reference to the Annex directly in the body of the code, thus making it part of the code. While additional refinements may be necessary in the future for this annex, at this time the Technical Committee remains committed to providing it as an acceptable alternate to Chapter 7. Please see Comment 5000-201 for additional information.

process or the Annex could be considered an acceptable alternative method to determining allowable building height and area. As such, the Task Group hopes that additional input can be obtained from the public after the approach has been used on various projects.

However, as 7.1.1.1 is currently worded, the Annex is actually part of the jurisdiction’s requirement that all new construction would be required to adopt it at its discretion. That is traditionally how several other model codes have been written so that a jurisdiction adopting the code must make a conscious decision to adopt a particular Annex for use in that jurisdiction. However, as this section is currently formatted the jurisdiction automatically adopts Annex X when it adopts the code. So it would take a conscious decision on behalf of the jurisdiction to purposely amend 7.1.1.1 so that Annex X is not adopted where that jurisdiction feels that such an adoption would be appropriate at the time of adoption of NFPA 5000. Since most jurisdictions do not take that approach when adopting Annexes, it becomes problematic that they may inadvertently adopt Annex X as an alternative to Chapter 7 for determining allowable heights and areas of various building types of construction.

Since this is still an ongoing and evolving approach, it is my opinion that many jurisdictions that may consider adopting NFPA 5000 would not want to incorporate this annex using a codified alternate method allowed by NFPA 5000. Thus, the jurisdictions would have to incorporate an amendment in their adopting ordinance to provide wording similar to that suggested in the Public Comment I submitted. In my opinion, it is extremely premature to be providing a mandatory reference to Annex X as an acceptable alternate method for determining types of construction for allowable heights and areas of buildings. Therefore, I have voted negative on the Committee Action to reject my Public Comment.

5000-20A Log #CC51 BLD-BLC FINAL ACTION: Accept (7.1.1.2)

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify as follows: 7.1.1.2 Annex X shall be considered an alternate method for determining allowable type s of construction and the height and area of buildings.

SUBSTANTIATION: Annex X is not based upon the traditional height and area concept, nor does it redefine types of construction.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-203 Log #43 BLD-BLC FINAL ACTION: Accept (7.2)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-307

RECOMMENDATION: Give consideration to Holland’s explanation of negative only as it relates to the scope overlap with NFPA 90A so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: The Building Construction Technical Committee reviewed Mr. Holland’s negative. However, they continue to believe that this topic is well within the jurisdiction of the Technical Committee responsible for NFPA 90A. In fact, the Technical Committee does not agree with the committer that the scope of NFPA 90A is overly restrictive. However, recognizing that the commenter has a valid concern with respect to fire-retardant treated wood (FRTW), the Technical Committee requests that the Technical Committee responsible for NFPA 90A consider adding “FRTW in accordance” with NFPA 703” to the list of combustible materials permitted for use in plenum construction. FRTW, which can meet a flame spread of 25 and smoke development of less than 50, does not currently comply with the definition of limited-combustible.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-204 Log #325 BLD-BLC FINAL ACTION: Reject


COMMENT ON PROPOSAL NO: 5000-313

RECOMMENDATION: Reconsider the original proposal.

SUBSTANTIATION: The action taken in 5000-306 Section 7.2.3.2.3 allows for the fire resistance rating of the mezzanine floor to be lower than the fire resistance ratings of the other floors in the building. This proposal ensures that the integrity of the building construction type is maintained for the entire building. While the area of the mezzanine is included in the story in which it occurs, adequate protection of the mezzanine floor assembly is still required to protect occupants of the mezzanine and the space over which it occurs. In addition adequate fire resistance ratings are necessary to protect the lives of emergency personnel.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this proposal. Provisions for mezzanines were addressed in the 2003 edition of NFPA 5000 and reaffirmed in the 2006 ROP for NFPA 5000. The potential conflict raised in the original Proposal 5000-313 was addressed by the committee action in Proposal 5000-306 and no additional action is required at this time.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 2

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
In the basement of the "structural frame" as intended by new 7.2.7.2.3, the structural frame elements located in a roof at least 20 ft above the floor must have their fire resistive protection maintained. The fire resistive protection is allowed to be omitted for these structural frame members, then they can instead be designed to conduct heat to the columns during a fire condition, thus causing potential failure of the columns. Furthermore, if an unprotected beam which is directly connected to a column fails, then a structural collapse is very likely to occur as well.

The laws of physics and fire dynamics dictate that the hot gases from a fire will rise as they heat the roof. Therefore, the structural frame members will be subject to convective heat transfer from the hot upper layer, threatening their structural integrity if they are not adequately protected with fire resistive materials. This provision in the code that allows the fire resistance rating of the roof-ceiling assembly members to be omitted where the roofs are at least 20 ft above the floor is fragile, is intended as a cost-effective approach to providing reasonable fire resistive protection where the roof-ceiling assembly is required to have a fire resistance rating based on the type of construction for those occupancies which would generally have high roofs and a light hazard type combustible loading. Most likely, this will apply to assembly and educational occupancies where there may be auditoriums and gymnasiums with such high roof construction. However, we have significant concerns about allowing this omission of fire resistive protection in exhibit halls required to have fire resistive roof construction where the combustible loading may be significant due to the exhibits brought into the hall. If the type of construction requires the structural frame members to have a fire resistance rating, then that rating should not be omitted for those elements located in the roof of those occupancies. Other approaches are available for avoiding having to provide fire resistive protection for these structural frame members. For example, they could be fire test treated wood for plenum construction. Fire retardant treated wood has long been accepted in such construction, and no fire loss data has been presented to justify its exclusion.

NFPA 90A is much less widely distributed and adopted than are NFPA and ICC codes; the use of the proposed language will require all users of Chapter 7 of NFPA 5000 to have a version of NFPA 90A also available. Moreover, it will require the adoption of NFPA 90A as a reference standard (NFPA 90A is not a code!!!).

There will be a section in the wires and cables that says that the system would require a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state, as determined in accordance with the requirements of NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, or ASTM E 2231, Standard Test Method of Surface Burning Characteristics of Building Materials, and using the specimen preparation and mounting criteria of ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics.

SUBMISSION: If the Technical Committee choose to reject this change, the following:

(1) As explained by Joseph Holland in his negative, the scope of NFPA 90A does not include all buildings.

(2) As also explained by Joseph Holland in his negative, the proposal as written eliminates fire retardant treated wood from plenum construction. Fire retardant treated wood has long been accepted in such construction, and no fire loss data has been presented to justify its exclusion.

(3) NFPA 90A is much less widely distributed and adopted than are NFPA and ICC codes; the use of the proposed language will require all users of Chapter 7 of NFPA 5000 to have a version of NFPA 90A also available. Moreover, it will require the adoption of NFPA 90A as a reference standard (NFPA 90A is not a code!!!).

(4) The section on wires and cables contains a set of three minimum requirements (noncombustible, limited combustible and NFPA 262), which was found unacceptable by the Standards Council (see Standards Council Document 5000-78). The section also discusses the term limited combustible in relation to wires and cables, something else that Standards Council objected to.

(5) As explained in the substantiation for my proposal 5000-319, the ASTM code does not cover fire standards, ASTM E10, and now ASTM E2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics. This is the first time that a standard practice was created with instructions for how to test pipe or duct insulation systems using ASTM E 84 (or NFPA 255). It is now important that the building code adopt the new practice to create consistency and maintain appropriate fire safety. This will prevent manufacturers from testing systems as individual materials rather than as a composite. Experience in fire safety indicates that testing of systems representative of what is being used in practice is likely to lead to more accurate information on the performance of the material proposed for use. Unfortunately, ASTM E 84 and NFPA 255 are silent on specimen preparation and mounting for a number of materials, including pipe and duct insulation systems. The reference to ASTM E 2231 will now make testing details clear, as the ASTM E 2231 standard practice describes specimen preparation and mounting methods in detail for all types of systems. The change to the section on supplementary materials will also make NFPA 5000 consistent with the changes accepted by the International Mechanical Code.

(6) The text contained in the proposed rewrite of the section is not even consistent with NFPA 90A.

The scope of NFPA 90A makes it clear what its intent is; it is a standard for constructing, installing, operating and maintaining air conditioning and ventilating systems. It is not really intended to be a standard for describing the materials contained in plenums. The scope reads:

"This standard shall cover construction, installation, operation, and maintenance of systems for air conditioning and ventilating, including filters, ducts, and related equipment, to protect life and property from fire, smoke, and gases resulting from fire or from conditions having manifestations similar to fire.

Thus, references to NFPA 90A in Chapter 50 of NFPA 5000 are very appropriate, as are references that address fire and smoke dampers.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The committee must defer to the Technical Committee responsible for NFPA 90A, since it has jurisdiction over plenum spaces. Because of the NFPA extract policy, this committee cannot modify the text. Instead, the Technical Committee recommends that the commenter take these issues up with the Technical Committee responsible for NFPA 90A. See Committee Statement on Comment 5000-319.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 19 Negative: 1 Abstain: 1
REPORT ON COMMENTS

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

EXPLANATION OF NEGATIVE:
HOLLAND: Mr. Hirschler lays out several convincing arguments as to why the information needs to be in the building code without relying on yet another committee. I am concerned about possible delay and the piecemealing of the code. The process is unwieldy; too many committees for even the most dedicated code advocate to handle. And now I am being told that even though I sent a seven day letter into the NFPA 90A committee that because of the size of the agenda I will not be allowed to speak to my comment. Recommend the committee accept Mr. Hirschler’s comment.

EXPLANATION OF ABSTENTION:
KOPPEL: In accordance with the policy of the Standards Council, I must abstain on this item.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-201

RECOMMENDATION: Add a new Section 7.2.3.2.15.8 to read as follows:

“Fire retardant treated wood complying with Chapter 45 shall be permitted.”

SUBSTANTIATION: The proposed text under consideration to be extracted from NFPA 90A does not contain

COMMITTEE MEETING ACTION: Accept

[The TCC ballot results were 28 voting members; of whom 25 voted affirmatively and 3 ballots were not returned (Jerry Jones, Nickson, and Schwager).]

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-207

RECOMMENDATION: Review the proposed ROC language from NFPA 90A for these sections and revise the language as necessary. NFPA 90A is also reporting to the Spring 2005 Meeting thus some of these sections may change.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment, since the NFPA 90A ROC language was not available in time for review at the Building Construction Technical Committee ROO meeting.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 20 Negative: 3

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

EXPLANATION OF NEGATIVE:
HOLLAND: The action on this item reinforces our objection to bringing in the language from NFPA 90A into the code. If the language is brought into the code it will be done without our review and if not, the code will not reflect NFPA 90A. Recommend: Accept.


COMMENT ON PROPOSAL NO: 5000-317

RECOMMENDATION: Accept this proposal. Do not revise the new 7.2.3.2.15 in the way proposed, with language extracted from NFPA 90A. Instead, make the new section 7.2.3.2.15 read as follows, without extracted material.

7.2.3.2.15 Plenum Materials Combustibility. All materials exposed to the airflow shall be listed as noncombustible, limited-combustible, or fire retardant treated wood to have a maximum smoke density index of 50, as determined in accordance with the requirements of NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, and using the specimen preparation and mounting criteria of ASTM E 84, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics.

SUBSTANTIATION: There are several reasons for this change:

1. As explained by Joseph Holland in his negative on proposal 5000-307, the scope of NFPA 90A does not include all buildings.

2. As also explained by Joseph Holland in his negative on proposal 5000-307, acceptance of proposal 5000-307 eliminates fire retardant treated wood from plenum construction. Fire retardant treated wood has long been accepted in such construction, and no fire loss data has been presented to justify its exclusion.

3. NFPA 90A is now more widely distributed and adopted than NFPA or ICC codes; the use of the proposed language will not go out of use in the application of NFPA 5000.

4. The section on wires and cables contains a set of three minimum requirements (noncombustible, limited combustible and NFPA 262), which was found unacceptable by the Standards Council (see Standards Council D[09-07/SC/09-06-07]). The same section also discusses the term limited combustible in relation to wires and cables, something else that Standards Council objected to.

5. As explained in the substantiation for my proposal 5000-319, the ASTM committee on fire standards, ASTM E05, has now issued ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics. This is the first time that a standard practice was created with instructions for how to test pipe or duct insulation systems using ASTM E 84 (or NFPA 255). This is an important change that will make NFPA consistent with the changes accepted by the International Mechanical Code.

6. The text contained in the proposed rewrite of the section is not even fully consistent with NFPA 90A.

7. The action on proposal 5000-320 and that on 5000-319 are not really related since 5000-319 addressed the issue of how to test pipe and duct insulation and other supplementary materials.

The scope of NFPA 90A makes it clear what its intent is: it is a standard for constructing, installing, operating and maintaining air conditioning and ventilating systems. It is not really intended to be a standard for specifying the materials contained in plenums. The scope reads:

“This standard shall cover construction, installation, operation, and maintenance of systems for air conditioning and ventilating, including filters, ducts, and related equipment, to protect life and property from fire, smoke, and gases resulting from fire or from conditions having manifestations similar to fire.”

Thus, references to NFPA 90A in Chapter 50 of NFPA 5000 are very appropriate, as are references that address fire and smoke dampers.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Statement on Comment 5000-206.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 20 Abstain: 1
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

EXPLANATION OF ABSTENTION:
KOFFEL: In accordance with the policy of the Standards Council, I must abstain on this item.

5000-290 Log #300 BLD-BLC
FINAL ACTION: Reject

(7.2.3.2.16)

TCC Action: The Technical Correlating Committee (TCC) notes that the subject of the comment is within the scope of the NFPA 90A committee. See TCC generated comment 5000-206a.


COMMENT ON PROPOSAL NO: 5000-320
RECOMMENDATION: Reject this proposal. Do not revise the new 7.2.3.2.15 in the way proposed, with language extracted from NFPA 90A. Instead, make the new section 7.2.3.2.15 read as follows, without extracted materials:

7.2.3.2.15 Plenum Materials Combustibility. All materials exposed to the airflow shall be listed as noncombustible, limited-combustible, or fire-retardant-treated wood and have a maximum smoke developed index of 50, as determined in accordance with the requirements of NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, unless otherwise permitted by the following:

(1) The following materials shall be permitted in the plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread of 5 ft (1.5 m) or less when tested in accordance with the specified test method:
(a) Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.
(b) Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics.
(c) Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics.
(d) Optical-fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway.
(2) Smoke detectors shall not be required to comply with 7.2.3.2.16.
(3) Loudspeakers and recessed lighting fixtures, including their assemblies, and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.
(4) Insulation and coverings, duct coverings, duct linings, vapor-retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and duct silencers used in duct systems shall be permitted, provided that the following criteria are met:
(a) The products specified in 7.2.3.2.15(4) shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50, as determined in accordance with the requirements of NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, using the specimen preparation and mounting criteria of ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics.
(b) The products specified in 7.2.3.2.15(4) are to be applied with adhesives, they shall be tested with such adhesives applied, or the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state, as determined in accordance with the requirements of NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, using the specimen preparation and mounting criteria of ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics.

SUBSTANTIATION:
There are several reasons for this change:
(1) As explained by Joseph Holland in his negative, the scope of NFPA 90A does not include all buildings.
(2) As also explained by Joseph Holland in his negative, the proposal accepted eliminates fire retardant treated wood from plenum construction. Fire retardant-treated wood has long been accepted in such construction, and no fire loss data has been presented to justify its exclusion.
(3) NFPA 90A is much less widely distributed and adopted than are NFPA or ICC codes; the use of the proposed language will require all users of Chapter 7 of NFPA 5000 to have a version of NFPA 90A also available. Moreover, it will require the adoption of NFPA 90A as a reference standard (NFPA 90A is not a code!!!).
(4) The section on wires and cables contains a set of three minimum requirements (non combustible, limited combustible and NFPA 262), which was found unacceptable by the Standards Council (see Standards Council [D#02-07/SC#02-78(d)]). The same section also discusses the term limited combustible in relation to wires and cables, something else that Standards Council objected to.

As explained in the substantiation for my proposal 5000-319, the ASTM committee on fire standards, ASTM E05, has now issued ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics. This is the first time that a standard practice was created with instructions for how to test pipe or duct insulation systems using ASTM E 84 (or NFPA 255). It is now important that the building code adopt the new practice to create consistency and maintain appropriate fire safety. This will prevent manufacturers from testing systems as individual materials rather than as a composite. Experience in fire safety indicates that testing of systems representative of what is being used in actual practice is likely to give more accurate information on the fire performance of the material proposed for use. Unfortunately, ASTM E 84 and NFPA 255 are silent on specimen preparation and mounting for a number of materials, including pipe and duct insulation systems. The reference to ASTM E 2231 will now make testing details clear, as the ASTM E 2231 standard practice describes specimen preparation and mounting methods in detail for all types of systems. The change to the section on supplementary materials will also make NFPA 5000 consistent with the changes accepted by the International Mechanical Code.

(5) The text contained in the proposed rewrite of the section is not even fully consistent with NFPA 90A.

The scope of NFPA 90A makes it clear what its intent is; it is a standard for constructing, installing, operating and maintaining air conditioning and ventilating systems. It is not really intended to be a standard for describing the materials contained in plenums. The scope reads:

“This standard shall cover construction, installation, operation, and maintenance of systems for air conditioning and ventilating, including filters, ducts, and related equipment, to protect life and property from fire, smoke, and gases resulting from fire or from conditions having manifestations similar to fire.”

Thus, references to NFPA 90A in Chapter 50 of NFPA 5000 are very appropriate, as are references that address fire and smoke dampers.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Statement on Comment 5000-206.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 20 Abstain: 1
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

EXPLANATION OF ABSTENTION:
KOFFEL: In accordance with the policy of the Standards Council, I must abstain on this item.

5000-210 Log #292 BLD-BLC
FINAL ACTION: Accept in Principle

(7.2.3.20)

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMENT ON PROPOSAL NO: 5000-307
RECOMMENDATION: Revise text to read as follows:

7.2.3.2.20 Ceiling Plenum Tested Assembly. Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested or investigated and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform with the design of the fire resistance-rated assembly, as tested in accordance with NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials, or ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials. [5000-321 (Log #25b)]

SUBSTANTIATION:
The term “ANSI” should preface UL 263 to underscore that it is an ANSI approved standard. The title of UL 263 should be included in accordance with the NFPA Manual of Style and the inclusion of the titles of the other referenced standards.

COMMITTEE MEETING ACTION: Accept in Principle

Make this modification to Section 2.4.41 and not in the body of the text.

COMMITTEE STATEMENT: The Technical Committee agrees with the inclusion of the standard; however, the change should be made in Chapter 2, which contains the standard’s title and the ANSI designation. The body of the text will continue to refer to the short title, “UL 263”, per the NFPA Manual of Style, which was accepted in Proposal 5000-307.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. In this section, the modification would apply to all types of structures, not just steel framing as commenter intended. It also doesn’t take into account types of protection other than sprayed fireproofing. In addition, while the 12 in. is utilized in a testing protocol, there is no evidence that it will provide the intended performance.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-213a Log #CC9 BLD-STR FINAL ACTION: Accept (7.3)

SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-345
RECOMMENDATION: Insert the following language to Section 7.3:
7.3.6 Light-transmitting plastics used in exterior walls shall be in accordance with Section 48.7.
7.3.7 lintels used in exterior walls shall be in accordance with 37.1.2.
7.3.8 Parapets used in exterior walls shall be in accordance with 37.1.3.
7.3.9 vertical separation of exterior openings used in exterior walls shall be in accordance with 37.1.4.
7.3.10 projections used in exterior walls shall be in accordance with Section 37.2.
7.3.11 Metal composite materials used in exterior walls shall be in accordance with Section 37.4.

COMMITTEE MEETING ACTION: Accept
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN
EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment on 5000-4.
COMMITTEE STATEMENT:

BALLOT NOT RETURNED:

BALLOT RESULTS:

NUMBER ELIGIBLE TO VOTE: 27

Technical Committee for the next edition of NFPA 5000. Therefore, the Structures and Construction Technical Committee recommends that the TCC and Standards Committee recognizes that these topics are within the jurisdiction of the Building Construction Technical Committee. Therefore, the Structures and Construction Technical Committee recommends that the TCC and Standards Council reassign 37.1.2, 37.1.3, 37.1.4, 37.2, and 37.4 to Building Construction Technical Committee for the next edition of NFPA 5000.

In Item #2, the Technical Committee added the same pointers to Section 7.3 as the Structures and Construction Technical Committee did in Comment 5000-213a (Log #CC9).

In Item #3, the Technical Committee added the same pointers to Section X.3 to maintain consistency between Chapter 7 and Annex X.

In Item #4, the Technical Committee clarifies the intent of 37.4.5 by making it consistent with the definition of horizontal separation.

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION:

No specific action necessary.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Committee on Building Construction

RECOMMENDATION: Modify Table 7.4.1 as shown on the following page.

SUBSTANTIATION: These modifications better clarify the intent of the height and area values for buildings containing high hazard contents and coordinate with changes to Annex X and Chapter 34.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-215a Log #CC52 BLD-BLC

(Final Action: Accept)

5000-215b Log #CC709 BLD-IND

(Final Action: Accept)

COMMITTEE MEETING ACTION: Reject

RECOMMENDATION:

Modify Table 7.4.1 as follows:

High hazards Contents Not Exceeding maximum Allowable Quantities (MAQ) Requiring Protection Level 1 through 5.”

MODIFICATION:

Editorial change prompted by action taken by BLD-BLC on comment 5000-215a.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-216 Log #46a BLD-BLC

(Final Action: Accept in Principle (7.4.1.3.5 (New))

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: Technical Correlating Committee on Building Code

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: Technical Committee on Building Construction

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. Even with deletion of the word ‘exception’, there remains another technical issue that has not been resolved -- the potential spread of fire via unprotected exterior openings to a different floor in an adjacent building.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-215 Log #45 BLD-STR

(Final Action: Reject)

5000-216 Log #46b BLD-IND

(Final Action: Accept in Principle (7.4.1.3.5 (New))

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: Technical Correlating Committee on Building Code

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: Reconsider the original proposal.

SUBSTANTIATION: In order to resolve the Manual of Style issue, delete the word “exception” and insert 7.3.4.2.1.

The proposed language offers the option of design flexibility in upgrading the fire resistance rating of the existing building’s exterior wall.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. Even with deletion of the word ‘exception’, there remains another technical issue that has not been resolved -- the potential spread of fire via unprotected exterior openings to a different floor in an adjacent building.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER


COMMENT ON PROPOSAL NO: 5000-337

RECOMMENDATION: Reconsider the original proposal.

SUBSTANTIATION: In order to resolve the Manual of Style issue, delete the word “exception” and insert 7.3.4.2.1.

The proposed language offers the option of design flexibility in upgrading the fire resistance rating of the existing building’s exterior wall.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. Even with deletion of the word ‘exception’, there remains another technical issue that has not been resolved -- the potential spread of fire via unprotected exterior openings to a different floor in an adjacent building.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-215b Log #CC709 BLD-IND

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Committee on Building Construction

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. These topics are more appropriately addressed in Chapter 37, Exterior Walls, and overcomplicate Chapter 7. However, the Technical Committee recognizes that these topics are within the jurisdiction of the Building Construction Technical Committee. Therefore, the Structures and Construction Technical Committee recommends that the TCC and Standards Council reassign 37.1.2, 37.1.3, 37.1.4, 37.2, and 37.4 to Building Construction Technical Committee for the next edition of NFPA 5000.

In Item #2, the Technical Committee added the same pointers to Section 7.3 as the Structures and Construction Technical Committee did in Comment 5000-213a (Log #CC9).

In Item #3, the Technical Committee added the same pointers to Section X.3 to maintain consistency between Chapter 7 and Annex X.

In Item #4, the Technical Committee clarifies the intent of 37.4.5 by making it consistent with the definition of horizontal separation.

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION:

These modifications better clarify the intent of the height and area values for buildings containing high hazard contents and coordinate with changes to Annex X and Chapter 34.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-215 Log #327 BLD-BLC

(Final Action: Reject)

5000-215 Log #327 BLD-BLC

(Final Action: Reject)

5000-216 Log #46b BLD-IND

(Final Action: Accept in Principle (7.4.1.3.5 (New))

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: Technical Correlating Committee on Building Code

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

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SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Accept
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For SI units, 1 ft = 0.3048 m, 1 ft² = 0.093 m².
S: Allowable building height in feet and allowable number of stories above grade in buildings protected with an automatic sprinkler system as specified in 7.4.1.
N: Allowable building height in feet and allowable number of stories above grade in buildings not protected with an automatic sprinkler system as specified in 7.4.1.
UL: Unlimited.
NP: Not permitted.
Note: Within each occupancy category, the top row refers to the allowable number of stories above grade, and the bottom row refers to allowable area per story.
TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “ACCEPT IN PRINCIPLE. Revise Section 7.4.1.3.5.3 as follows:

1. Add a new section 7.4.1.3.5.3 to read as follows:

“7.4.1.3.5.3 Frangible Building. A frangible building containing high hazard contents requiring Protection Level 1 or Protection Level 2 shall not be required to comply with the other provision of Section 7.4, provided that it complies with all of the following conditions: (no change to balance of the text)”

Add the same revision proposed Annex X in Section X.4.

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-359

RECOMMENDATION: Item 1. Modify Chapter 3 as follows:

Chapter 3: Definition - Frangible Building. A detached building containing high hazard contents that is not anticipated to survive a fire, deflagration, or explosion, and the building is located to limit damage to surrounding structures.

Item 2. Insert the following into Chapter 7:

7.4.1.3.5.3 Frangible Building. A frangible building containing high hazard contents requiring Protection Level 1 or Protection Level 2 shall not be required to comply with Section 7.4, provided that it complies with all of the following conditions:

(A) The allowable area of a frangible building is less than or equal to 400 sq ft in floor area, or the building and its use comply with NFPA 1124 and the floor area does not exceed that allowed in Table 7.4.1.

(B) The frangible building is a maximum of one story in height above-grade without any basements.

(C) The frangible building has a maximum occupant load of two people, unless the building and its use comply with NFPA 1124.

(D) The frangible building is separated in accordance with Chapter 34, unless the building and its use comply with NFPA 1124.

SUBSTANTIATION: This comment responds to the TCC’s Comment 5000-218. The Technical Committee further refined and amended the requirements for frangible buildings with input from both the Task Group between the Building Construction Technical Committee and the Industrial, Storage, and Misc. Occupancies Technical Committee, and the public comments received.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMENT ON AFFIRMATIVE

KOPELL: The Committee’s action should be expanded to also include the proposed text in Annex X.

5000-219 Log #543 BLD-BLC

FINAL ACTION: Reject

(7.4.1.3.5.3(A))

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

COMMENT ON PROPOSAL NO: 5000-539

RECOMMENDATION: Add new text as follows:

(A) Frangible buildings containing high hazard contents requiring Protection Level 1, 2, or 3 shall be not be required to comply with Section 7.4 and Chapter 34, provided they comply with the applicable codes and standards in 6.4.2.

SUBSTANTIATION: Frangible buildings need to be exempt from the requirements of Chapter 34 as well since compliance with that chapter for these types of buildings would make them impractical to use and would be counterproductive to the purpose of these proposed provisions. Since the concept of the frangible building is to allow it to be totally destroyed by fire or explosion without adversely affecting adjacent property or people, it follows that such buildings should not be overburdened with the many restrictive provisions in Chapter 34 for hazardous materials. This public comment, however, would still require that the frangible building comply with the applicable codes and standards that are spelled out in Section 6.4.2. Thus, these frangible buildings would still be provided with a minimum reasonable level of fire and life safety but would still have the flexibility to be designed and constructed in a manner that makes them practical for use in a cost effective manner. Yet if something serious goes wrong which results in a catastrophic fire or explosion, the separation distances provided should prevent such an event from adversely affecting the adjacent property or persons.

COMMITTEE MEETING ACTION: Rej ect

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment, since it is outside the Technical Committee’s jurisdiction. The Technical Committee defers to the action taken by the Industrial, Storage, and Misc. Occupancies Technical Committee.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-220 Log #544 BLD-IND

FINAL ACTION: Rej ect

(7.4.1.3.5.3(A))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT IN PRINCIPLE to “REJECT—See TCC action and notes on 5000-217a and 5000-218a.

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

COMMENT ON PROPOSAL NO: 5000-181

RECOMMENDATION: Add new text as follows:

(A) Frangible buildings containing high hazard contents requiring Protection Level 1, 2, or 3 shall not be required to comply with Section 7.4 and Chapter 34, provided they comply with the applicable codes and standards in 6.4.2.
SUBSTANTIATION: Frangible buildings need to be exempt from the requirements of Chapter 34 as well since compliance with that chapter for these types of buildings would make them impractical to use and would be counterproductive to the purpose of these proposed provisions. Since the concept of the frangible building is to allow it to be totally destroyed by fire or explosion without adversely affecting adjacent property or people, it follows that such buildings should not be overburdened with the many restrictive provisions in Chapter 34 for hazardous materials. This public comment, however, would still require that the frangible building comply with the applicable codes and standards that are spelled out in Section 6.4.2. Thus, these frangible buildings would still be provided with a minimum reasonable level of fire and life safety but would still have the flexibility to be designed and constructed in a manner that makes them practical for use in a cost effective manner. Yet if something serious goes wrong which results in a catastrophic fire or explosion, the separation distances provided should prevent such an event from adversely affecting the adjacent property or persons.

COMMITTEE MEETING ACTION: Accept in Principle in Part

See Committee Action and Statement for Comment 5000-218a (Log #CC701) in which the committee articulated its position with regard to frangible buildings.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4

5000-222 Log #549 BLD-BLC 

FINAL ACTION: Accept in Principle (7.4.1.3.5.3(B))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE. The TCC notes that an additional action was taken by the TCC on comment 5000-217a.”

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

RECOMMENDATION: Revise text as follows:

(B) Frangible buildings shall not exceed 400 sq ft limited in total floor building area unless otherwise approved, shall be limited to one above-grade story without basement, and shall have a maximum occupant load of two people.

SUBSTANTIATION: It is our understanding that the 400 sq ft maximum total floor area allowed by this provision was totally arbitrary and that the Technical Committee was looking for public comments on this limitation. We believe that providing a 400 sq ft limit is counterproductive to the intent of this section which is to exempt these frangible buildings from having to meet the height and area limits and types of construction requirements in Section 7.4 of this Code. Presently, Table 7.4.1 will allow buildings having to meet the requirements for Protection Levels 2 and 3 to have at least 3,000 sq ft and 5,000 sq ft, respectively, of Type V(000) construction which can be increased an additional 75 percent to a total allowable area of 5,250 sq ft and 8,750 sq ft, respectively, with a minimum 30 ft of open space provided around the entire building perimeter. These buildings would also be required to be protected with an automatic sprinkler system. Although a building having to meet the requirements for Protection Level 1 would not be allowed to be constructed of Type V(000) construction, it would be allowed to be constructed of Type II(000) or Type III(200) construction with a basic allowable area of 7,000 sq ft which could also be increased by 75 percent to a total allowable area of 12,250 sq ft for a minimum 30 ft open space around the entire building perimeter. Again, this building would also require automatic sprinkler protection.

Also, Table 7.4.1 will allow buildings complying with Protection Level 3 to be of unlimited area when of Type I(442) construction and buildings complying with Protection Levels 1 and 2 to have a basic area of 21,000 sq ft for the same type of construction which can be increased by 75 percent to a total allowable area of 36,750 sq ft. Again, these buildings are only allowed if they are protected with an automatic sprinkler system. Obviously, if Table 7.4.1 allows these types of construction, a 400 sq ft limit for frangible buildings does not make any sense in order to allow these buildings to be exempt from the requirements in Table 7.4.1. It is our presumption that frangible buildings are basically expendable and should be allowed to be of any size, provided their total destruction by fire or explosion will not have a significant adverse affect on adjacent properties or people.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-218a (Log #CC701).

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4

5000-222 Log #550 BLD-BLC 

FINAL ACTION: Accept in Principle (7.4.1.3.5.3(B))

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

RECOMMENDATION: Add new text as follows:

(B) Frangible buildings shall not exceed 400 sq ft in total floor area unless otherwise approved, shall be limited to one above-grade story without basement, and shall have a maximum occupant load of two people.

A.7.4.1.3.5.3(B) Exception. One method for assessing the number of people necessary to conduct production operations is to perform a process hazard analysis as required by OSHA's Process Safety Management Standard, Title 29 CFR 1910.119. Also add the OSHA PSM Standard as referenced to Annex D Nonmandatory Informational References.

SUBSTANTIATION: It may not always be practical or even safe to limit the occupancy to two people. There may be cases where it is necessary to have three or four people, or possibly even five, available to conduct a given operation or process within the frangible building in a relatively safe manner which would be jeopardized with fewer people allowed to assist in the process. Therefore, we have provided an exception which is identical to allow these buildings to be exempt from the NFPA 1124-2003 by the NFPA Pyrotechnics Technical Committee. Proposal No. 1124-43 as contained in the NFPA 1124 Report on Proposals (ROP) has been Accepted in Principle in Part by the Pyrotechnic Technical Committee.

5000-85
The exception and the annex note to the exception were added to Section 4.15.1 of NFPA 1124 to allow the maximum number of persons in a process building to be based upon that necessary for conducting production operations. Guidance as to how the number of people can be determined is provided in the Annex A note which references the OSHA Process Safety Management Standard, Title 29 CFR 1910.119. We certainly agree that the number of occupants involved in a frangible building under these code provisions should be kept to an absolute minimum, but not to such a minimum that safe process operations or utilization of the building cannot be achieved.

COMMITTEE MEETING ACTION: Accept in Principle

See Committe Recommendation on Comment 5000-217a (Log #C71). COMMITTEE STATEMENT: The Technical Committee met the commenter’s intent by exempting buildings complying with NFPA 1124. However, the Technical Committee chose not to include the direct reference to OSHA, since a reference will be incorporated into the next edition of NFPA 1124.

BALLOT RESULTS:
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-224 Log #551 BLD-IND FINAL ACTION: Accept in Principle (7.4.1.3.5.3(b))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be retained as ACCEPT IN PRINCIPLE. "The TCC notes that an additional action was taken by the TCC on comment 5000-217a and 5000-217c.

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

COMMENT ON PROPOSAL NO: 5000-181

RECOMMENDATION: Add new text as follows:

(B) Frangible buildings shall not exceed 400 sq ft in total floor area unless otherwise approved, shall be limited to one above-grade story without basement, and shall have a maximum occupant load of two people.

Exception*: The maximum occupant load shall be allowed to be increased to the maximum number of persons necessary to utilize the building for its intended purpose.

A 7.4.1.3.5.3(B) Exception. One method for assessing the number of people necessary to conduct production operations is to perform a process hazard analysis as required by OSHA’s Process Safety Management Standard, Title 29 CFR 1910.119.

Also add the OSHA PSM Standard as referenced to Annex D Nonmandatory Informational References.

SUBSTANTIATION: It may not always be practical or even safe to limit the occupant load to two people in certain types of frangible buildings. There may be cases where it is necessary to have three or four people, or possibly even five, available to conduct a given operation or process within the frangible building in a relatively safe manner which would be jeopardized with fewer people allowed to assist in the process. Therefore, we have provided an exception which is identical to the exception currently being processed by NFPA 1124-2003 by the NFPA Pyrotechnics Technical Committee. Proposal No. 1124-43 as contained in the NFPA 1124 Report on Proposals (ROP) has been Accepted in Principle in Part by the Pyrotechnics Technical Committee. The exception and the annex note to the exception were added to Section 4.15.1 of NFPA 1124 to allow the maximum number of persons in a process building to be based upon that necessary for conducting production operations. Guidance as to how the number of people can be determined is provided in the Annex A note which references the OSHA Process Safety Management Standard, Title 29 CFR 1910.119.

We certainly agree that the number of occupants involved in a frangible building under these code provisions should be kept to an absolute minimum, but not to such a minimum that safe process operations or utilization of the building cannot be achieved.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement for Comment 5000-218a (Log #C701).

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-218a (Log #C701).

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-225 Log #541 BLD-BLC FINAL ACTION: Accept in Principle (7.4.1.3.5.3(c))

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

COMMENT ON PROPOSAL NO: 5000-359

RECOMMENDATION: Add new text as follows:

(C) Frangible buildings shall be separated in accordance with Chapter 34 from buildings and other structures not designed to withstand the effects of a fire, deflagration or detonation within the frangible building.

Exception: Buildings complying with NFPA 1124 shall be allowed to be separated in accordance with the separation distance requirements specified in NFPA 1124.

SUBSTANTIATION: The separation distances specified in Chapter 34 may not be adequate in all situations for those buildings and structures regulated by NFPA 1124-2003. Therefore, we have provided the exception to that requirement where compliance is achieved by the separation distances specified in NFPA 1124 for those buildings that are being designed in accordance with NFPA 1124. This will provide the necessary level of safety for these frangible buildings that most likely will be totally destroyed in the event of an explosion or severe fire.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Recommendation on Comment 5000-217a (Log #C71).

COMMITTEE STATEMENT: The Technical Committee met the commenter’s intention by exempting buildings complying with NFPA 1124.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-226 Log #542 BLD-IND FINAL ACTION: Accept in Principle (7.4.1.3.5.3(c))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE—See the TCC notes and action on 5000-217a.”

SUBMITTER: Phil Grucci, Fireworks by Grucci, Inc.

COMMENT ON PROPOSAL NO: 5000-181

RECOMMENDATION: Add new text as follows:

(C) Frangible buildings shall be separated in accordance with Chapter 34 from buildings and other structures not designed to withstand the effects of a fire, deflagration or detonation within the frangible building.

Exception: Buildings complying with NFPA 1124 shall be allowed to be separated in accordance with the separation distance requirements specified in NFPA 1124.

SUBSTANTIATION: The separation distances specified in Chapter 34 may not be adequate in all situations for those buildings and structures regulated by NFPA 1124-2003. Therefore, we have provided the exception to that requirement where compliance is achieved by the separation distances specified in NFPA 1124 for those buildings that are being designed in accordance with NFPA 1124. This will provide the necessary level of safety for these frangible buildings that most likely will be totally destroyed in the event of an explosion or severe fire.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-218a (Log #C701).

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-227 Log #48 BLD-IND FINAL ACTION: Accept in Principle (7.4.1.3.6 (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-360

RECOMMENDATION: Review this proposal and develop any comments on the proposal.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: No specific action necessary.

COMMITTEE STATEMENT: BLD-IND supports the action of BLD-BLC on proposal 5000-360. BLD-IND notes that aircraft hangers are unique and that NFPA 409 is specific to hazards associated with such operations.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-227a Log #CC7 BLD-BLC FINAL ACTION: Accept (7.4.1.3.5.4)

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-932

RECOMMENDATION: Insert the following new section:

7.4.1.3.5.4 Detached Unprotected Storage Buildings. Detached unprotected storage buildings containing high hazard contents requiring Protection Level 3 and complying with 34.3.5.5 shall not be required to comply with Section 7.5, provided that they comply with the following conditions:

(A) The allowable area of the building does not exceed that allowed in Table 7.3.1.

(B) The building is a maximum of one story in height above-grade without any basements.

SUBSTANTIATION: This comment builds on the work done by the Industrial, Storage and Miscellaneous Occupancies Technical Committee in Proposal 5000-932. The Technical Committee further refined and amended the requirements for detached unprotected storage buildings with input from the joint Task Group between the Building Construction Technical Committee and the Industrial, Storage and Miscellaneous Occupancies Technical Committee.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-228 Log #331 BLD-BLC FINAL ACTION: Reject
(7.4.3.6.8.4)

COMMENT ON PROPOSAL NO: 5000-371
RECOMMENDATION: Reconsider the original proposal.
SUBSTANTIATION: The reference Section 8.7 is titled Opening Protectives, not “self-closing doors.” for consistency, the proposal should be accepted as written.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The intent of this requirement is to limit doors to only the self-closing type. The action taken by the Technical Committee on the original proposal meets this intent by requiring the use of a fire door.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-229 Log #49 BLD-BLC FINAL ACTION: Accept in Principle (7.5)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-372
RECOMMENDATION: Review this proposal to correlate with the action taken on Proposal 5000-373.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: See Committee Action on Comment 5000-230.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-230 Log #50 BLD-BLC FINAL ACTION: Accept (7.5.2)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-373
RECOMMENDATION: Give consideration to Messersmith’s comment on affirmative so as to make any additional changes. Also, see the related TCC note on Proposal 5000-372.
SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: The language in the Committee Action on Proposal 5000-373 is correct and is reflected appropriately in the Chapter 7 Preprint of the ROP.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-231 Log #498 BLD-BLC FINAL ACTION: Accept (7.6.2.3.1)

SUBMITTER: Gene Boecker, Code Consultants, Inc.
COMMENT ON PROPOSAL NO: 5000-380
RECOMMENDATION: Change the original proposal for the annex as follows:
A.7.6.2.3.1 While the maximum area for mixed occupancy buildings is simply based on the most restrictive occupancy limitation, the calculation for buildings with separated occupancies is more complex. Because the area ratio described in 7.4.1.2.2 must be calculated for each story, the result for each story must be less than one. Thus, each story is evaluated and the sum of all allowable areas should not exceed that allowed for a three-story building. Figure 7.6.2.3.1 shows an example of how the calculation should be used for a four-story building with separated uses, with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 and with open frontage on all sides.

The building is of Type II (111) construction. The building is 75,000 ft² per story and contains Assembly, Business, Day-Care, and Mercantile occupancies. According to 7.6.2, each story is granted a 75 percent increase for open frontage and a 200 percent increase for automatic sprinklers. The resulting allowable areas for each occupancy are as follows:

- Assembly: 58,125 ft²
- Business: 140,625 ft²
- Day Care: 99,375 ft²
- Mercantile: 80,625 ft²

The calculated ratios per story are:

1. \( \frac{15000}{58125} = 0.26 \)
2. \( \frac{22000+140625 + 12000+58125 + 41000+140625}{60000+140625} = 0.19 + 0.43 = 0.62 \)
3. \( \frac{15000+80625 + 6000+99375 + 15000+140625 + 25000+80625 + 14000+58125}{80625} = 0.19 + 0.06 + 0.11 + 0.31 + 0.24 = 0.91 \)

Each story complies since the sums are less than one. The sum of the ratios for all stories is: \( 0.26 + 0.62 + 0.91 = 2.8 \)

The building complies since the sum of all the ratios are less than 3.

SUBSTANTIATION: Since the committee direction is to use 5000-379 (Log #880) rather than the offered text, I agree that the code text in this proposal should defer to 5000-379. The Annex information, considered as acceptable in principle requires adjustment in accordance with the negative ballots.

Using the negative comments as constructive criticism, the revised illustration should address the intent and remove the potential confusion as to whether or not the 4th level assembly area can have greater than 1,000 occupants. The resultant calculations have been reviewed accordingly. Together with the committee’s text, the annex information in the revised form should assist the reader in understanding how the section is to be applied.

COMMITTEE MEETING ACTION: Accept
Affirmative: 21

5000-232 Log #51 BLD-BLC FINAL ACTION: Accept in Principle (7.6.2.3.1 and A.7.6.2.3.1 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-380
RECOMMENDATION: Consideration to Messersmith’s and Thornberry’s explanation of negative so as to make any additional changes.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: See Committee Action on Comment 5000-231.

5000-233 Log #330 BLD-BLC FINAL ACTION: Reject (7.6.2.3.1, 7.6.3.3, 7.6.3.4 and 7.6.3.6)

SUBMITTER: Salvatore D.Cristina, Rutgers, The State University of New Jersey / Rep. NFPA Building Code Development
COMMENT ON PROPOSAL NO: 5000-381
RECOMMENDATION: Reconsider the original proposal.
SUBSTANTIATION: Unrestricted area buildings of combustible construction are an unacceptable risk in the event of fire or other natural disaster. This code section would permit the construction of fire box retail out of unprotected wood frame construction.

Even with a failure rate of less than five percent for sprinkler systems, this poses too much risk for the occupants and fire fighters.

Therefore, the building should have both active and passive fire protection systems.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The commenter did not provide additional documentation as requested by the Technical Committee, which would indicate that the risk of a fire overtaking the sprinkler system in combustible buildings has been increased to an unacceptable level.

5000-234 Log #587 BLD-BLC FINAL ACTION: Reject (7.6.3.2.2)

SUBMITTER: Ignatius Kalpaczynski, Connecticut Office of State Fire Marshal
COMMENT ON PROPOSAL NO: 5000-382
RECOMMENDATION: Partial sprinkler protection specified in 7.6.3.2.1 shall not.....
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. Section 7.6.3.2.1 does not specify or define a partial sprinkler system.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBARADO, FOSTER

COMMITTEE STATEMENT: BLD-IND supports the action of BLD-BLC on proposal 5000-387.

BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMITTEE STATEMENT: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

RECOMMENDATION: Review the action on this proposal.

COMMITTEE STATEMENT: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: See see committee action and statement on Comment 5000-239.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 21 Negative: 1

COMMITTEE MEETING ACTION: Accept in Principle

RECOMMENDATION: See the above recommendation.

COMMITTEE STATEMENT: Make any further correlation changes for Chapter 7.

SUBSTANTIATION: See the above recommendation.

COMMITTEE STATEMENT: The Technical Correlating Committee (TCC) notes that the proposal for “...determined in accordance with...other approved test methods or analytical methods...” does not meet the definition of fire resistance rating as defined in Chapter 3. There is no equivalent to a fire resistance rating which has been substantiated by the current test standards.

COMMITTEE STATEMENT: The Technical Correlating Committee (TCC) notes that the comment did not receive the necessary 2/3 agreement to confirm the committee action of accept, thus the final action is REJECT.

NOTE: Since the ballot on this Comment did not confirm the Committee Action, the comment is rejected.


COMMENT ON PROPOSAL NO: 5000-392

RECOMMENDATION: Delete the last sentence as revised by the Committee Action and substitute a new sentence as follows:

“Elements and assemblies tested in conjunction with active suppression systems shall not be considered as equivalent to material fire resistance rating data shall be permitted to be evaluated on a performance basis.”

The fire resistance rating of an element or assembly determined by tests conducted in accordance with NFPA 251 or other approved test methods shall not be allowed to rely on an automatic fire protection system but shall be permitted to be evaluated as part of a performance-based option in accordance with Chapter 5.

COMMITTEE MEETING ACTION: Accept in Principle

1. Accept the proposed new last sentence of 8.2.1.1 to read as recommended by the submitter with the following revisions:

a. The fire resistance rating of an element or assembly determined by tests conducted in accordance with NFPA 251 or other approved test methods shall not be allowed to rely on an automatic fire protection system but shall be permitted to be evaluated as part of a performance-based option in accordance with Chapter 5.

b. Add annex A.8.2.1.1 to read as follows:

The intent of fire resistance ratings determined in accordance with NFPA 251 or other approved test methods, and the intent of the requirements within this code for assemblies to possess a specific fire resistance rating, are that the element or assembly should by itself have an inherent resistance to the effects of fire. The fire-resistance rating that might be assigned to an element or assembly based on the intervention (effect) of one or more external factors during a fire-resistance test (e.g., in accordance with NFPA 251) should not be considered as a de facto equivalent to the required fire resistance rating. The fact that the modified (increased) fire resistance rating needs a combination...
of inherent plus external factors to all work together results in a solution that might be inherently less reliable, thus making it inherently non-equivalent.

However, the combination of active suppression systems together with elements or assembles that have inherent fire resistance or are deemed as acceptable equivalencies to a specific fire-resistance requirement.

COMMITTEE STATEMENT: The committee intends to clarify that discharge from an automatic fire protection system spraying on a membrane does not necessary achieve an equivalent measure of fire resistance unless it is verified as such through an equivalency or performance-based design.

NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 13 Negative: 9

EXPLANATION OF VOTE: CLARK: The proposed change by the committee to allow an element or assembly to be deemed to have an equivalent fire resistance rating when the element or assembly rely on external factors which are not an inherent part of the element or assembly to achieve equivalent does not change the definition of fire resistance rating as defined in Chapter 3. There is no equivalent to a fire resistance rating which has been substantiated by the current test standards.

DrdVdLV: I voted negative on this proposal. Each of these proposals introduces language that is unnecessary and conflicts with the existing requirements of Section 1.4, Equivalency, and Chapter 5, Performance-Based Option. Section 1.4 and Chapter 5 of NFPA 101 were written with the sole intent to permit the use of systems, methods, or devices that do not meet the strict letter of the code yet can provide equal or superior performance to that intended by the code for the specific application. NFPA 101 and other NFPA standards/codes currently recognize the use of water spray on building materials as an alternative means of achieving an equivalent to a fire-resistance rating. This includes water spray/wetting of atrium windows to achieve an equivalent 1-hour fire separation (NFPA 101/ NFPA 5000), and water spray/wetting of columns in storage occupancies as a means in lieu of fireproofing (NFPA 13). The committee fails to prove these concepts have failed. To merely exempt a specific means of achieving fire resistance – the use of an active fire suppression system in combination with building elements and assemblies – that satisfies the requirements of Section 1.4 and Chapter 5 is prejudice.

GERDS: The effect of the comment is to limit equivalent protection. There has been laboratory testing to show water curtains are effective in protecting elements. Based on negative option in Chapter 5 is too restrictive for a simple issue.

HUMBLE: Register my vote as negative on Comments 5000-238 (Log #54), 5000-239 (Log #539), and 5000-240 (Log #588). The original proposal, and the revised proposals at the ROC meeting, continue to reflect a departure from the remainder of the NFPA 5000. Sections 1.5 and Chapter 5 are available for use by the user on a voluntary basis when innovative materials, products, systems or methods that do not specifically meet the text and intent of the life safety code. In addition, by now adding this new provision to 8.2.1.1, it appears to restrict, and not compliment, the first sentence of 8.2.1.1 which states “…determined in accordance with…” other applied test methods or analytical methods in accordance with 8.2.3 [Analytical Methods]…

KLEIN: Comment Numbers 5000-239 and 5000-240, Please register my vote as negative on Code Comments 5000-239 and 5000-240. These code comments are on ROP Code Proposal 5000-392, which I voted against during the ROP ballot stage. ROP Code Proposal 5000-392 did not receive the required 2/3 majority during the ballot, and was therefore rejected. As I stated on my ROP ballot, the existing code language in Chapter 1, under Section 1.4, “Fire Resistance”, and Chapter 5, “Performance-Based Option” adequately covers any proposed modification of code requirements in this Code. If these Code Comments are approved for Chapter 8, do other Committees need to add similar verbiage permitting the application of Section 1.5 or Chapter 5 to their code sections? The effect of the comment is to restrict, and not compliment, the first sentence of 8.2.1.1 which states “…determined in accordance with…” other applied test methods or analytical methods in accordance with 8.2.3 [Analytical Methods]…

MCCORMICK: I am voting negative on this committee action because this change either limits the use of sprinklers and glazing as an equivalency in a fire rated separation or prohibit them entirely. The combination of automatic sprinkler protection and a cladding system has been an accepted practice for many years. For example, the atrium provisions have accepted the substitution of sprinklers/ glass in lieu of a 1-hour fire separation wall for over 20 years. This code change essentially voids that acceptance. They require a performance-based evaluation or an equivalency evaluation. The UL test for the WS and glazing to achieve a 2-hour fire resistance would not be accepted without further evaluation. I believe these are unnecessary restrictions. Again, the proposals are not based on any unsatisfactory experience.

SCHNEIDER: The proposed clarification has been submitted on the assumption that a change in current requirements is necessary. The use of sprinklers to protect a glazed barrier has been an accepted practice for many years without any unsatisfactory experience that I am aware of. This proposal would specifically require a performance-based evaluation as an annex note to this section of the Code. I believe that I believe is not warranted in view of current code requirements and favorable field experience regarding this issue.

WOOD: I am voting negative on this item. No data has been submitted to justify a change in current requirements is necessary. The use of sprinklers to protect a glazed barrier has been an accepted practice of many years without any unsatisfactory experience that I am aware of. The proposal would specifically require a performance-based evaluation as an annex note to this section of the Code. I believe that I believe is not warranted in view of current code requirements and favorable field experience regarding this issue.

5000-240 Log #588 BLD-FIR FINAL ACTION: Reject (8.2.1.1)

TCC Action: The Technical Correlating Committee (TCC) notes that the committee action on comment 5000-239 (referred to in the committee action) did not receive the necessary 2/3 agreement to confirm the committee action of accept in principle, thus the final action is REJECT.

ST DRIVER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENTARY ON PROPOSAL NO: 5000-392

RECOMMENDATION: Revise: the text and assemblies tested in conjunction with active fire suppression systems in lieu of required fire resistance ratings shall have their alternative fire protection performance evaluated relative to the original requirement for fire resistance.

SUBSTANTIATION: Glass and steel are not appreciably nor inherently fire resistant. However, when they are wetted by special sprinklers, they have a combined performance that is not fire resistant, but may achieve a desirable, alternative, fire protection goal. Such alternative goals, because they do not match the intent of the code specifications, can only be documented by performance based analysis.

The code traditionally permits reductions in fire resistance ratings by sprinkler protection. The trend to wet, inherently non fire resistant materials, reduces the original requirement for fire resistance to zero. This is beyond the intent of permitting reductions. Note the committees’ own new wording of A.4.5.1 in log #214. The resultant assembly must be fairly evaluated for the significance of the alternative performance rather than being accepted as equal to the fire resistance.

COMMITTEE MEETING ACTION: Accept in Principle

See committee action and statement on Comment 5000-239.

COMMITTEE STATEMENT: See committee action and statement on Comment 5000-239.
fire rated separation or prohibit them entirely. The combination of automatic sprinklers and a glazed barrier has been accepted by the Code for many years. For example, the atrium provisions have accepted the substitution of sprinklers/glass in lieu of a 1-hour fire separation wall for over 20 years. This code change essentially voids that acceptance. They require a performance-based evaluation or equivalency evaluation. The UL test for the WS sprinkler and glazing to achieve a 2-hour fire resistance would not be accepted without further evaluation. I believe that these are unnecessary restrictions. Again, the proposals are not based on any unsatisfactory experience.

SCHNEIDER: No data has been submitted to justify that a change in current requirements is necessary. The use of sprinklers to protect a glazed barrier has been an accepted practice for many years without any unsatisfactory experience that I am aware of. This proposal would specifically require a performance-based evaluation or equivalency evaluation, already permissible and addressed in the code, that I believe is not warranted in view of current code requirements and favorable field experience regarding this issue.

WOOD: I am voting negative on this item. No data has been submitted to justify a change in current requirements is necessary. The use of sprinklers to protect a glazed barrier has been an accepted practice of many years without any unsatisfactory experience that I am aware of. The proposal would specifically require a performance-based evaluation or equivalency evaluation, already permissible and addressed in the code, that I believe is not warranted in view of the current code requirements and favorable field experience regarding this issue.

COMMENT ON AFFIRMATIVE

CLARK: The proposed change by the committee to allow an element or assembly to be deemed to have an equivalent fire resistance rating when the element or assembly rely on external factors which are not an inherent part of the element or assembly to achieve this equivalency does not meet the definition of fire resistance rating as defined in Chapter 3. There is no equivalent to a fire resistance rating which has been substantiated by the current test standards.

5000-241 Log #55 BLD-BLC FINAL ACTION: Accept in Principle (8.3)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from Accept to "Accept in Principle – See Comment 5000-242"

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL: NO: 5000-395

RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Please note, while the language has not been relocated, the Technical Committee now has responsibility for Section 8.3 and Section 8.4.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-242 Log #506 BLD-BLC FINAL ACTION: Accept in Principle (8.3, 8.4)

SUBMITTER: Richard J. Davis, FM Global

COMMENT ON PROPOSAL: NO: 5000-397

RECOMMENDATION: Delete existing Section 8.3 and 8.4 and replace with the following:

8.3 Scope. The provisions of this section apply to high challenge (HC) fire walls, fire walls and fire barrier walls unless modified by provisions of Section 8.3.2, Section 8.3.3 or Section 8.4, respectively, and shall hereafter in this section be referred to as walls.

8.3.1 General.

8.3.1.1 Design Loads. All walls and their supports shall be designed for loads in accordance with ASCE 7 and to withdraw a minimum uniform load of 5 lb/ft2 (0.24 kPa) from either direction applied perpendicular to the face of the wall.

8.3.1.2 Fire Resistance Ratings.

8.3.1.2.1 The fire resistance rating of assemblies shall be determined in accordance with NFPA 251, ASTM E 119, or UL 263.

8.3.1.2.2 When assemblies are calculated to have an equivalent fire resistance, the calculations shall be based on the conditions of acceptance and the fire exposure specified in the standards referenced in 4.1.1.

8.3.1.3 Ducts and Air-Transfer Openings. The provisions of Section 8.8.8. shall govern the materials and methods of construction used to protect ducts and air-transfer openings in walls.

8.3.1.4 Double Wall Assemblies. Where either wall of a double wall is laterally supported by a building frame with a fire resistance rating less than that required for the wall, double wall assemblies shall be considered to have a combined assembly fire resistance rating as specified in Table 8.3.4.

<table>
<thead>
<tr>
<th>Fire Resistance Rating of Each Wall (hours)</th>
<th>Equivalent to Single Wall (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

8.3.1.5 Impact Damage.

8.3.1.5.1 Where the wall is subject to impact damage from moving vehicles or the handling of merchandise or other activity, protection against impact damage shall be provided for an appropriate height but not less than 5 ft (1.5 m) from the finished floor.

8.3.1.5.2 Where the fire protective covering of a structural element required to have a fire resistance rating by Section 8.3.2.4.3 or 8.3.3.4.3 is subject to impact damage from moving vehicles or the handling of merchandise or other activity, protection against impact damage shall be provided for an appropriate height but not less than 5 ft (1.5 m) from the finished floor.

8.3.1.6 Joints. The provisions of Section 8.9 shall govern the materials and methods of construction used to protect joints within or between walls.

8.3.1.7 Opening Protective. The provisions of Section 8.7 shall govern the materials and methods of construction used to protect openings in walls.

8.3.1.8 Penetration. The provisions of Section 8.8 shall govern the materials and methods of construction used to protect through-penetrations and membrane penetrations.

8.3.2 High Challenge Fire Walls

8.3.2.1 Scope. High challenge (HC) fire walls shall meet the requirements of this section and Section 8.3, Section 8.8 and Section 8.9.

8.3.2.2 Structural Stability.

8.3.2.2.1 HC fire walls shall be designed and constructed to remain stable after the collapse of the structure due to fire on either side of the wall.

8.3.2.2.2 HC fire walls constructed in compliance with the requirements of Section 8.3.3, 8.3.4, or 8.3.5 shall be deemed to provide the required stability.

8.3.2.2.3 HC fire walls shall be nonbearing.

8.3.2.2.4 Structural framing within the plane of the wall shall be permitted to be load-bearing.

8.3.2.3 Cantilevered HC Fire Walls. Cantilevered HC fire walls shall be entirely self-supported and nonbearing.

8.3.2.3.1 There shall be no connections to the building(s) or contents on either side other than to the flashing.

8.3.2.3.2 Cantilevered HC fire walls shall be erected where there is a complete break in the structural framework.

8.3.2.4 Tied HC Fire Walls.

8.3.2.4.1 Placement. Tied HC fire walls shall be centered on a single column line or constructed between a double column line and shall be limited to one-story buildings.

8.3.2.4.2 Framework.

8.3.2.4.2.1 Structural framing on either side of the wall shall line up horizontally and vertically and shall support the roof.

8.3.2.4.2.2 The framework on each side of the HC fire wall shall be continuous or tied together through the wall.

8.3.2.4.2.3 The framework on each side shall be designed so that it resists the maximum lateral pull that can be developed due to framework collapse in a fire on the opposite side.

8.3.2.4.2.4 Tied HC fire walls shall be supported laterally by the building framework with flexible anchors.

8.3.2.4.3 Fire Resistance Rating.

8.3.2.4.3.1 Where centered on a single column line, structural framing at the column line shall have a fire resistance rating of not less than the required fire resistance rating of the HC fire wall.

8.3.2.4.3.2 Where the wall is installed between double column lines, structural framing along the first column line immediately on each side of the HC fire wall shall have a fire resistance rating of not less than the required fire resistance rating of the HC fire wall.

8.3.2.5 Double HC Fire Walls.

8.3.2.5.1 A double HC fire wall shall consist of two parallel walls.

8.3.2.5.2 There shall be no connections, other than to the flashing, between the walls.

8.3.2.5.3 Each wall that comprises a double HC fire wall shall be supported laterally by the building frame on its respective side and shall be independent of the other wall and framing on the opposite side.

8.3.2.6 HC Fire Walls at Elevation Differences. Where the roofs on opposite sides of a HC fire wall are not at the same elevation, the HC fire wall assembly shall be arranged as described in either 8.3.2.6.1 or 8.3.2.6.2.
8.3.2.6.1* The two buildings shall be separated by a double HC fire wall, with each wall extending from the foundation to above the roof of its respective building to form a parapet.

8.3.2.6.2* A cantilevered HC fire wall shall be continuous from the foundation to the top of the parapet for the lower roof.

8.3.2.6.2.1 The upper wall shall be supported by the framework of the higher building and shall be structurally independent of the cantilevered HC fire wall.

8.3.2.6.2.2 The upper wall section shall be permitted to have an exterior fire resistance rating of 1 hour less than the required fire resistance rating of the lower cantilevered portion but not less than a 2-hour rating.

8.3.2.7* Clearance.

8.3.2.6.1 Clearance to allow for expansion of unprotected structural framework shall be provided between cantilevered HC fire walls and structural framework on both sides and between double HC fire walls.

8.3.2.7.2 In buildings assigned to Seismic Design Category C, D, E, or F, as determined in accordance with ASCE 7, sufficient separation shall be provided between cantilevered HC fire walls and adjacent framing on each side and between double HC fire walls to allow independent movements of the elements without contact.

8.3.2.8* Opening Protectives.

8.3.2.8.1 Maximum Area. The total width of all openings in HC fire walls shall not exceed 25 percent of the length of the wall in each story.

8.3.2.8.2 Single Opening Size. No single opening in HC fire walls shall exceed 120 ft² (11.15 m²).

8.3.2.8.3* Fire Doors. HC fire walls shall have each opening protected with two fire door assemblies.

8.3.2.8.4* Double HC Fire Walls. Openings in double HC fire walls shall be provided using one fire door in each separate wall or two fire doors in a vestibule having a fire resistance rating greater than or equal to that required for the double HC fire wall.

8.3.2.8.5* Material Handling Systems. Where material handling systems penetrate a HC fire wall, the system design shall provide a method to stop the material handling system and allow fire doors to close without obstruction.

8.3.2.9* Penetrations in HC Fire Walls.

8.3.2.9.1 Pipes, raceways, and cable trays (regardless of size) shall not penetrate HC fire walls except as permitted by 8.3.2.9.1.1 through 8.3.2.9.1.4 and 8.3.2.9.5.

8.3.2.9.1.1 Where it is necessary for pipes, raceways, and cable trays (regardless of size) to penetrate HC fire walls, they shall be positioned to pass through the wall no more than 3 ft (1.0 m) above the finished floor level.

8.3.2.9.1.2 A steel sleeve of a size to allow an approximate 1-in. (25-mm) clearance between the sleeve and the pipe or raceway shall be provided for each pipe or raceway.

8.3.2.9.1.3 The space between the sleeve and penetrating item (annular space) shall be filled as required in Section 8.3.1.6.

8.3.2.9.1.4 Joint reinforcement shall be provided in the horizontal mortar joints immediately above and below sleeves in concrete masonry walls, and all hollow spaces of concrete masonry walls immediately adjacent to the sleeve shall be filled with concrete, mortar, or grout.

8.3.2.9.2 The center-to-center spacing between adjacent pipes or raceways shall not be less than three times the larger pipe or raceway diameter.

8.3.2.9.3 Horizontal clear space between adjacent openings for cable trays shall not be less than three times the width of the opening.

8.3.2.9.4 Vertical clear space between adjacent openings for cable trays shall be not less than three times the height of the opening.

8.3.2.9.5* The limitation on the height of penetrations above the floor and other requirements of Section 8.3.2.9 shall not apply where the structural framework of the building has a fire resistance rating equal to or greater than the required fire resistance rating of the HC fire wall; only compliance with Section 8.3.1.6 shall be required.

8.3.2.10 Ducts and Air Transfer Openings.

8.3.2.10.1 Fire dampers shall be installed and maintained in accordance with NFPA 90A.

8.3.2.10.2 HC fire walls shall be protected with two fire damper assemblies.

8.3.2.10.3 For double HC fire walls, each wall assembly shall be protected with a fire damper rated for that wall with a slip joint connecting the sleeves between the HC fire walls.

8.3.2.10.4 For cantilevered and tied HC fire walls a slip joint connecting the sleeves shall be provided on both sides of the two dampers (to separate the ductwork on each side from the section containing the dampers) for HC fire walls.

8.3.2.11* High Hazard Materials.

8.3.2.11.1 Piping or ductwork that is used to convey high hazard materials shall not penetrate HC fire walls that have a required fire resistance rating of 4 hours or greater.

8.3.2.11.2 Piping or ductwork that is used to convey high hazard materials and that penetrates fire walls with a required fire resistance rating of less than 4 hours shall be protected with approved devices or with systems designed to terminate the flow or movement of the materials through the fire wall automatically upon fire detection.

8.3.2.12* Parapets.

8.3.2.12.1 HC fire walls shall extend from the foundation to a point at least 30 in (914 mm) above the top surface of the roof being protected.

8.3.2.12.2 Roofs sloped greater than 1/4 in. per foot (6 mm per 305 mm) downward toward the HC fire wall shall be provided with a minimum 36-in. (0.9-m) parapet.

8.3.2.12.3* HC fire walls shall be permitted to terminate at or above the top surface of the roof deck provided the structural framework (columns, beams and girders) one bay out on both sides of the HC fire wall have the same fire resistance rating as the HC fire wall.

8.3.2.13* Roof Surface Protection.

8.3.2.13.1 Locations Outside High Wind-Prone Regions. For buildings less than or equal to 60 ft (18.3 m) in height and located outside hurricane prone regions, as defined by ASCE 7, the roof surface adjacent to HC fire walls for at least 25 ft (7.6 m) on each side shall be protected according to 8.3.2.13.1.1 through 8.3.2.13.1.2.

8.3.2.13.1.1 For single-ply membranes, gravel ballast or concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ANSI/SPRI RP-4.

8.3.2.13.1.2 Built-up and modified bitumen roof decks shall be surfaced with gravel or slag applied at a minimum rate of 4 lb/ft² (19 kg/m²) and embedded in a flood coat of hot asphalt or coal-tar.

8.3.2.13.2* Locations Within High Wind-Prone Regions. For buildings greater than 60 ft in height or located within hurricane prone regions, as defined by ASCE 7, the roof surface on each side of the roof adjacent to HC fire walls for at least 25 ft (7.6 m) on each side shall be protected according to 8.3.2.13.2.1 through 8.3.2.13.2.3.

8.3.2.13.2.1 For single-ply membranes, concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ANSI/SPRI RP-4.

8.3.2.13.2.2 Built-up and modified bitumen roof decks adjacent to HC fire walls shall be surfaced with gravel or slag embedded in a flood coat of hot asphalt or coal-tar and applied at a minimum rate of 4 lb/ft² (19 kg/m²).

8.3.2.13.2.3 Gravel or slag shall be embedded into a double flood coat of hot asphalt or coal-tar and rolled into the hot bitumen to ensure full embedment. After cooling, any loose gravel or slag shall be removed from the roof.

8.3.2.14* Roof Structures.

8.3.2.14.1 Roof structures with combustible construction or contents, such as monitors, penthouses, or cooling towers, not more than 20 ft (6.1 m) in height above the roof shall be located at least 50 ft (15.2 m) from HC fire walls required to have a fire resistance rating exceeding 2 hours.

8.3.2.14.2 Roof structures with combustible construction or contents over 20 ft (6.1 m) in height shall be provided with a separation distance greater than 50 ft (15.2 m) from HC fire walls that is acceptable to the authority having jurisdiction.

8.3.2.15 Roof Penetrations. Heat and smoke vents, skylights, and unprotected roof penetrations for air-handling equipment or smoke control systems shall be located at least 25 ft (7.6 m) from HC fire walls requiring a fire resistance rating of more than 2 hours and at least 4 ft (1.3 m) from HC fire walls requiring a fire resistance rating of 2 hours or less.

8.3.2.16 Horizontal Continuity.

8.3.2.16.1 HC fire walls shall comply with the requirements of 8.3.2.16.2 through 8.3.2.16.3.

8.3.2.16.2* End Walls.

8.3.2.16.2.1 The length and arrangement of end walls shall be in accordance with Table 8.3.2.16.2.1 and Figure 8.3.2.16.2.1 (a) or Figure 8.3.2.16.2.1(b).

8.3.2.16.2.2 The fire resistance rating of the end walls shall be based on fire exposure from the outside and shall be a minimum of 1 hour, or two hours less than that of the HC fire wall, whichever is greater.

<table>
<thead>
<tr>
<th>Height of Exposing Area (ft)</th>
<th>Length of End Wall Protection (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 40</td>
<td>12.2</td>
</tr>
<tr>
<td>40 to 70</td>
<td>21.3</td>
</tr>
<tr>
<td>71 and over</td>
<td>21.6 and over</td>
</tr>
</tbody>
</table>

Note: Protection should consist of blank, fire-rated construction.
Figure 8.3.2.16.2.1(a) End Wall Exposure Protection — End Walls Tied to Structural Framing.

Figure 8.3.2.16.2.1(b) End Wall Exposure Protection — End Walls Not Tied to Structural Framing.

8.3.2.16.2.4 Openings for truck docks and railroad sidings shall not be located within 20 ft (6.1 m) on either side of a HC fire wall.

8.3.2.16.3 Angle Walls.

8.3.2.16.3.1 The length of fire-resistive angle walls, \( Y \), as shown in Figure 8.3.2.16.3.1, shall be 35 ft (10.7 m).

8.3.2.16.3.2 The fire resistance rating of the angle walls shall be based on fire exposure from the outside and shall be 1 hour, or 1 hour less than that of the HC fire wall, whichever is greater.

8.3.2.16.3.3 Construction of each wall and eave shall be noncombustible for an additional 65 ft (20 m) beyond the fire resistance-rated construction.

8.3.2.16.3.4 Elevation differences perpendicular to HC fire walls shall be protected as angle walls, as shown in Figure 8.3.2.16.3.4.

Figure 8.3.2.16.3.1 Angle Wall Exposure Protection.
8.3.3.2 Structural Stability.

8.3.3.2.1 Fire walls shall be designed and constructed to remain stable after the collapse of the structure due to fire on either side of the wall.

8.3.3.2.2 Fire walls constructed in compliance with the requirements of Section 8.3.3.3, 8.3.3.4, or 8.3.3.5 shall be deemed to provide the required stability.

8.3.3.3* Cantilevered Fire Walls. Cantilevered fire walls shall be entirely self-supported and nonbearing.

8.3.3.3.1 There shall be no connections to the building(s) or contents on either side other than to the flashing.

8.3.3.3.2 Such walls shall be erected where there is a complete break in the structural framework.

8.3.3.4* Tied Fire Walls.

8.3.3.4.1 Placement. Tied fire walls shall be centered on a single column line or constructed between a double column line.

8.3.3.4.2 Framework.

8.3.3.4.2.1 Structural framing on either side of the wall shall line up horizontally and vertically and shall support the roof.

8.3.3.4.2.2 The framework on each side of the fire wall shall be continuous or tied together through the wall.

8.3.3.4.2.3 The framework on each side shall be designed so that it resists the maximum lateral pull that can be developed due to framework collapse in a fire on the opposite side.

8.3.3.4.2.4 Tied fire walls shall be supported laterally by the building framework with flexible anchors.

8.3.3.4.3 Fire-Resistance Rating.

8.3.3.4.3.1 Where centered on a single column line, structural framing (i.e., columns and beams or trusses) at the column line shall have a fire resistance rating of not less than the required fire resistance rating of the fire wall.

8.3.3.4.3.2 Where the wall is installed between double column lines, framing along the first column line immediately on each side of the fire wall shall have a fire resistance rating of not less than the required fire resistance rating of the fire wall.

8.3.3.4* Double Fire Walls.

8.3.3.4.5.1 A double fire wall shall consist of two back-to-back walls.

8.3.3.4.5.2 There shall be no connections, other than to the flashing, between the walls.

8.3.3.5 Each fire wall shall be supported laterally by the building frame on its respective side and shall be independent of the fire wall and framing on the opposite side.

8.3.3.6 Fire Wall Termination. Fire walls shall extend from the foundation to a point at least 30 in. (914 mm) above the surface of the roof except when installed in accordance with 8.3.3.6.1 through 8.3.3.6.5.

8.3.3.6.1 Buildings Located Above Parking Garages. A building located above a parking garage shall be permitted to have the fire walls for the building located above the parking garage extend from the horizontal separation between the parking garage and the building, provided all of the following conditions are met:

1. The horizontal separation between the parking garage and the building above shall have a minimum 3-hour fire resistance rating.

2. The basement or first story above grade plane shall be of Type I construction.

3. Shaft, stairway, ramp, or escalator enclosures through the horizontal assembly shall comply with either of the following conditions:

   a. The enclosure shall have not less than a 2-hour fire resistance rating with opening protectives in accordance with the applicable building code.

   b. Where the walls below the horizontal assembly have a minimum 3-hour fire resistance rating with opening protectives as required for walls forming a 3-hour fire barrier, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire resistance rating, provided that all the following conditions are met:

      i. The building above the horizontal assembly is not required to be of Type I construction.

      ii. The enclosure connects less than four stories.

      iii. The enclosure opening protectives above the horizontal assembly are a minimum 1-hour fire protection rating.

4. The building above the horizontal assembly shall contain only business, mercantile, storage, or residential occupancies or assembly occupancies having no assembly room with an occupant load of 300 or more.

5. The building below the horizontal assembly shall be an enclosed or open parking structure used for the parking and storage of private motor vehicles unless otherwise permitted by the following:

   a. Entry lobbies, mechanical rooms, and similar uses incidental to the operation of the building shall be permitted.

   b. Business, mercantile occupancies, and assembly occupancies having no assembly room with an occupant load of 300 or more shall be permitted in addition to those uses incidental to the operation of the building (including storage areas), provided that the entire structure below the horizontal assembly is protected throughout by an approved, electrically supervised automatic sprinkler system installed in accordance with NFPA 13.

6. The maximum building height shall not exceed the limits set forth in the applicable building code for the least restrictive type of construction involved.

8.3.3.6.2 Fire Resistance–Rated Noncombustible or Limited-Combustible Roof Assemblies. Fire walls shall be permitted to terminate tight against the underside of noncombustible or limited-combustible roof sheathing, deck, or slab where the roof assembly and the entire length and span of supporting elements for the roof assembly has a fire resistance rating of not less than 2 hours.

8.3.3.6.3 Two-Hour Fire Resistance–Rated Roof Assemblies. Fire walls shall be permitted to terminate at the underside of roof sheathing, deck, or slab, provided that all of the following criteria are met:

1. The fire wall has a required fire resistance rating of not more than 2 hours.

2. The roof assembly within 4 ft (1.2 m) of the fire wall has not less than a 1-hour fire resistance rating, and the entire length and span of supporting elements for the rated roof assembly has a fire resistance rating of not less than 1 hour.

3. Openings in the roof shall not be located within 4 ft (1.2 m) of the fire wall.

4. The roof shall be provided with not less than a Class B roof covering.

8.3.3.6.4 Type I or Type II Construction.

8.3.3.6.4.1 In buildings of Type I or Type II construction, fire walls shall be permitted to terminate at the underside of noncombustible roof sheathing, deck, or slabs where the roof is provided with not less than a Class B roof covering.

8.3.3.6.4.2 Openings in the roof shall not be located within 4 ft (1.2 m) of the fire wall.

8.3.3.6.5 Types III, IV, or V Construction. In buildings of Type III, Type IV, and Type V construction, fire walls shall be permitted to terminate at the underside of roof sheathing or deck in accordance with 8.3.3.6.5.1, 8.3.3.6.5.2, or 8.3.3.6.5.3.

8.3.3.6.5.1 Fire walls shall be permitted to terminate at the underside of roof sheathing or deck provided that all of the following criteria are met:

Figure 8.3.2.16.3.4 Exterior Wall Protection.
8.3.3.6.5.2 Fire walls shall be permitted to terminate at the underside of the roof sheathing, where the roof sheathing or deck is constructed of approved noncombustible or limited-combustible materials or fire-retardant–treated wood for a distance of 4 ft (1.2 m) on both sides of the wall.

8.3.3.6.5.3 Fire walls shall be permitted to terminate at the roof sheathing or deck, provided all of the following are met:

1. The underside of the roof sheathing or deck is protected with 5/8 in. (15.9 mm) Type X gypsum board applied directly beneath the underside of the roof sheathing or deck.
2. The Type X gypsum board is supported by a minimum of 2 in. (51 mm) ledgers attached to the sides of the roof framing members.
3. The Type X gypsum board is applied on both sides of the fire wall for a minimum distance of 4 ft (1.2 m) on both sides of the fire wall.
4. Openings in the roof are not located within 4 ft (1.2 m) of the fire wall.
5. The roof is covered with a minimum Class C roof covering.

8.3.3.7 Fire Walls with Elevation Differences. Where a fire wall separates parts of a building having different heights, such fire wall shall be permitted to comply with one of the following:

1. Terminate at a point 36 in. (914 mm) above the lower roof level when the exterior wall for a height of 10 ft (3.0 m) above the lower roof is 1-hour fire resistance–rated construction with openings protected by a 3-hour fixed or automatic opening protective.
2. Terminate at the sheathing of the lower roof when the exterior wall is without openings and when the roof is of at least 1-hour fire resistance–rated construction for a width of at least 10 ft (3 m), measured from the wall.

8.3.8 Clearance.

8.3.8.1 Clearance to allow for expansion of unprotected structural framework shall be provided.

8.3.8.2 This space shall be provided between cantilevered walls and structural framework on each side and between double walls.

8.3.8.3 In buildings assigned to Seismic Design Category C, D, E or F, as determined in accordance with ASCE 7, sufficient separation shall be provided between cantilevered fire walls and adjacent framing on each side and between double walls to allow independent movements of the elements without contact.

8.3.9 Horizontal Continuity.

8.3.9.1 Horizontal Termination of Fire Walls.

8.3.9.1.1 Fire walls shall be continuous in one of the following situations:

1. From exterior wall to exterior wall and extending at least 18 in. (457 mm) beyond the exterior surface of exterior walls
2. From an exterior wall extending at least 18 in. (457 mm) beyond the exterior surface of exterior walls to a fire wall with the same fire resistance rating
3. From fire wall to fire wall, with the same fire resistance ratings.

8.3.9.1.2 Fire walls shall be permitted to terminate at the interior face of exterior sheathing, siding, or other exterior finishes where the exterior sheathing, siding, or other exterior finishes are noncombustible or limited combustible and extend 4 ft (1.2 m) on both sides of the fire wall.

8.3.9.2 Horizontal Projecting Elements. Fire walls shall extend to the outer edge of horizontal projecting elements such as balconies, roof overhangs, canopies, marquees and architectural projections that are within 4 feet (1.2 m) of the fire wall unless otherwise permitted by 8.3.3.9.2.1, 8.3.3.9.2.2, or 8.3.3.9.2.3.

8.3.9.2.1 Fire walls shall not be required to extend to the outer edge of horizontal projecting elements without concealed spaces where the following conditions are met:

1. The exterior wall behind and below the projecting element shall have not less than a 1-hour fire-resistance-rating for a distance not less than the depth of the projecting element on both sides of the fire wall.
2. Openings within such exterior walls shall be protected by assemblies having a fire protection rating of not less than 1-hour.

8.3.9.2.2 Fire walls shall not be required to extend to the outer edge of noncombustible horizontal projecting elements with concealed spaces where the following conditions are met:

1. A wall having a fire resistance rating of not less than 1-hour shall extend through the concealed space.
2. The projecting element shall be separated from the building by construction having a fire resistance rating of not less than 1-hour for a distance on each side of the fire wall equal to the depth of the projecting element.
3. The wall shall not be required to extend under the projecting element where the building exterior wall has a fire resistance rating of not less than 1-hour for a distance on each side of the fire wall equal to the depth of the projecting element.
4. Openings within such exterior walls shall be protected by assemblies having a fire protection rating of not less than 3/4 hour.

8.3.9.2.3 Fire walls shall not be required to extend to the outer edge of combustible horizontal projecting elements with concealed spaces where the following conditions are met:

1. The fire wall shall extend through the concealed space to the outer edges of the projecting elements.
2. The exterior wall behind and below the projecting element shall have a fire resistance rating of not less than 1-hour for a distance not less than the depth of the projecting elements on both sides of the fire wall.
3. Openings within such exterior walls shall be protected by assemblies having a fire-protection rating of not less than 3/4 hour. [Source: BCMC Report, Building Walls, Floor and Roof Assemblies and Occupancy Separations, October 5, 1993]

8.3.10 Opening Protectives. Doors permitted in fire walls shall comply with Sections 8.3.1.4 and 8.3.3.10.

8.3.10.1 Maximum Openings. The total width of all openings in fire walls shall not exceed 25 percent of the length of the wall in each story.

8.3.10.2 Opening Size. No single opening in a fire wall shall exceed 120 ft2 (11.15 m2) unless the buildings on both sides of the fire wall are protected throughout by automatic sprinkler systems.

8.3.10.3 Double Fire Walls. Openings in double fire walls shall be protected using one fire door in each separate wall or two fire doors in a vestibule having a fire resistance rating of not less than that required for the fire wall.

8.3.10.4* Material Handling Systems. Where material handling systems penetrate a fire wall, the system design shall provide a method to stop the material handling system and allow fire doors to close without obstruction.

8.4 Fire Barrier Walls

8.4.1 Scope. Fire barrier walls shall meet the requirements of this section and Section 8.3.1, Section 8.8 and Section 8.9.

8.4.2 Continuity.

8.4.2.1 Fire barrier walls shall be continuous from one of the following or a combination thereof:

1. An exterior wall to an exterior wall
2. A floor below to a floor or roof above
3. One fire barrier wall to another fire barrier wall, fire wall, or high challenge fire wall having a fire resistance rating of not less than that required for the fire barrier wall

8.4.2.2 Fire barrier walls shall be continuous through all concealed spaces, such as those found above a ceiling, including interstitial spaces.

8.4.2.3 A fire barrier wall required for an occupied space below an interstitial space shall not be required to extend through the interstitial space, provided that the construction assembly forming the bottom of the interstitial space has a fire resistance rating not less than that of the fire barrier wall.

8.4.2.4* Termination. The fire barrier wall shall be permitted to terminate at an individually protected structural member in the same plane provided the structural member has a fire resistance rating of not less than that required for the fire barrier wall and prevents the passage of flame and hot gases.

8.4.3 Opening Protectives.

8.4.3.1 Doors and windows shall comply with the requirements of Sections 8.7 and 8.8.

8.4.3.2 The total glazing area in fire door assemblies and fire window assemblies shall not exceed 25 percent of the wall common to any room.

A8.3.1.4 Double walls are very common with unprotected frames. The individual walls separate the building frame that laterally supports them from a fire exposure on the opposite side. However, collapse of the respective building frame and wall on the side of fire origin could occur within 1/2 hour or less. Table 8.3.1.4 estimates that about 1 hour will transpire between fire origin, collapse of the respective building frame and fire wall, and rekindling of the fire.
Table 8.3.1.4 is not intended to apply where the building frames are fire resistance rated and would not collapse in an uncontrolled fire.

A.8.3.1.5 Where the potential exists for the collapse of building materials or contents or the impact of vehicles on a fire wall, the fire wall should be constructed of materials that are of adequate strength.

A.8.3.2.3 Walls intended to be used as cantilevered HC fire walls or fire walls in the future and used as temporary exterior walls will be vulnerable to wind damage. Such walls should be designed to resist required wind loads. If the future cantilevered wall is temporarily fastened to the building frame until the additional building is built, care should be taken to ensure that all ties to the wall are fully cut when new construction is completed.

A.8.3.2.4 Tied HC fire walls or fire walls [see Figure A.5.4(a)] are fastened to and usually encase members of the structural frame of the building. To remain stable, the pull of the collapsing structural members on the fire side of the wall must be resisted by the strength of the structure on the other side.

Figure A.8.3.2.4(a) Typical Tied HC Fire Wall or Fire Wall Used With Continuous Building Framework.

Since a fire can occur on either side of the wall, the wall preferably should be located at the center of strength of the building frame. The center of strength is the plane within the building frame in which the structural framing on either side has equal resistance. In small structures, the center of strength generally is in the middle of the building. [See Figure A.8.3.2.4(b).] In large buildings, the center of strength might lie midway between two double-column line expansion joints. [See Figure A.8.3.2.4(c) and Figure A.8.3.2.4(d).] Single-column line expansion joints utilizing beams with slotted connections do not break the continuity of the building frame. [See Figure A.8.3.2.4(e).]

Figure A.8.3.2.4(b) A Tied Wall at the Center of a Continuous Steel Frame. The Pull from Collapsing Steel on Either Side Must Be Resisted By the Lateral Strength of Steel on the Other Side.

Figure A.8.3.2.4(c) Tied Wall Where Framing is Not Continuous Throughout the Building.

Bolts with nuts and washers are permitted to be used to tie framework across a double-column line. In order to prevent the defeat of the purpose of the expansion joint created by the double-column line, nuts should be backed off slightly about 3/4 in. (19 mm). Where the primary roof framing is perpendicular to the HC fire wall or fire wall, two bolts should tie the roof framing together over each column to provide concentric load distribution. Where the primary roof framing is parallel to the HC fire wall or fire wall, single bolts are permitted to be used; however, intermediate ties might be needed between column lines. A registered civil or structural engineer should be consulted to provide more exact details. [See Figure A.8.3.2.4(f) and Figure A.8.3.2.4(g).]

Figure A.8.3.2.4(d) Double-Column Line Expansion Joint.

Figure A.8.3.2.4(e) Single-Column Line Expansion Joint Frame is Continuous. [Pickup Figure A.2.4(e), NFPA 221, 2000 ed.]

Figure A.8.3.2.4(f) Through-Wall Tie — Primary Roof Framing Perpendicular to Wall.
If the wall is not located at the center of strength, the lateral resistance of the frame on either side of the wall should be sufficient to resist the maximum horizontal component of the force that could result from collapsing structural framework on the opposite side. The horizontal force at each tie should be computed by using the following formula.

\[ H = \frac{wBL^2}{8S} \]

where:
- \( H \) = horizontal pull per tie [lb (kg)]
- \( w \) = dead load plus 25 percent of the live load of the roof [lb/ft² (kg/m²)]
- \( L \) = span of the structural member running perpendicular to the wall [ft (m)]
- \( B \) = distance between ties [ft (m)]
- \( S \) = sag in ft (m) that can be assumed as
  - \( 0.07L \) for open-web trusses
  - \( 0.09L \) for solid beams
  - \( 0.06L \) for wood trusses

[See Figure A.8.3.2.4(h).]
A.8.3.2.6.1 See Figure A.8.3.2.6.2(a).

A.8.3.2.6.2 The exterior fire-rated wall above the cantilevered wall should not overlap the cantilevered wall on the side of the lower building. It can be installed above the cantilevered wall or overlap the cantilevered wall on the side of the higher building [see Figure A.8.3.2.6.2(a) and Figure A.8.3.2.6.2(b)]. In either case, the integrity of the fire resistance rating of the HC fire wall should be maintained by protecting the joint between the cantilevered wall and the exterior HC fire wall attached to the higher building. In some cases, the parapet can be omitted from the higher wall only; however, such a judgment should consider the severity of exposure from the occupancy in the lower building and the elevation difference between the exposure and the top of the higher wall.

A.8.3.2.7 Table A.8.3.2.7 is based on steel framework. This table provides clearances that are conservative for other types of framework materials. It is based on an average temperature of 800°F (427°C) in two adjacent bays.

Adequate clearance should be provided between storage and HC fire walls or fire walls to prevent damage to the wall that might result from swelling of absorbent materials due to contact with water.

Table A.8.3.2.7 Minimum Recommended Clearance for Thermal Expansion Between Unprotected Structural Framework and HC Fire Walls or Fire Walls or Between Double HC Fire Walls

<table>
<thead>
<tr>
<th>Length of Bay Perpendicular to the HC Fire Wall or Fire Wall</th>
<th>Minimum Clearance Between Wall and Structural Framework and Between Double Walls</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>20</td>
<td>6.1</td>
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<tr>
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<td>50</td>
<td>15.2</td>
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<tr>
<td>55</td>
<td>16.8</td>
</tr>
<tr>
<td>60 or longer</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Source: FM DS 1-22.

Figure A.8.3.2.6.2(a) HC Fire Wall or Fire Wall Arrangement at Elevation Difference (Double Wall).
A.8.3.2.8.3 Figure A.8.3.2.8.3(a) and Figure A.8.3.2.8.3(b) show two methods of arranging a means of egress through a HC fire wall.

Figure A.8.3.2.8.3(a) Swinging Door and Sliding Door Configuration for Egress Purposes in a HC Fire Wall.

Figure A.8.3.2.8.3(b) Vestibule Arrangement for Egress Purposes in a HC Fire Wall.

A.8.3.2.8.4 An example of an arrangement where the alternative of providing two fire doors on a freestanding, fire-resistive vestibule is used and where the opening is used as part of the means of egress is shown in Figure A.8.3.2.8.3(b). Where this alternative is used and where the opening is used for egress, the vestibule should be long enough to allow both doors to swing in the same direction and open completely.

An example of an arrangement where the alternative of providing two fire doors on a freestanding, fire-resistive vestibule is used and where the opening is not used as part of the means of egress is shown in Figure A.8.3.2.8.4.

Figure A.8.3.2.8.4 Double Doors on a Freestanding Vestibule.

A.8.3.2.8.5 Limited guidance on protection used where material handling systems penetrate HC fire walls or fire walls can be found in NFPA 80. Additional guidance can be found in FM Global Loss Prevention Data Sheet 1-23.

A.8.3.2.9 Combustibles should be kept at least 1 ft (0.3 m) away from pipes, ducts, plates, and raceways where they penetrate the wall. Alternatively, a penetration seal with a T rating (as defined by ASTM E 814 of not less than 1 hour should be provided.

Mechanical connections, such as double-threaded elbows (see Figure A.8.3.2.9) or flexible-braided steel pipe, that are acceptable to the authority having jurisdiction and that will limit stress on the wall should be considered.
Steel-faced HC fire walls with gypsum board core or gypsum board on stud HC fire walls should be provided with a concrete stanchion where piping, raceways, or cables penetrate HC fire walls.

A.8.3.2.11 High hazard materials transported by piping or ductwork passing through HC fire walls have been shown to be a significant avenue of fire propagation across the HC fire wall and should be avoided. Where necessary for these systems to penetrate a HC fire wall with a fire resistance rating of less than 4 hours, the flow of the high hazard materials must be interrupted or otherwise protected by engineered devices or systems specifically designed for such purpose and approved by the authority having jurisdiction. Devices that can be used for this protection include but are not limited to excess-flow valves and fire-safe shutoff valves, pneumatic knife or gate dampers, blowoff/vacuum shutdown devices, or encapsulation of the piping or ductwork and its supports with material having a fire resistance rating at least equal to that required of the HC fire wall.

High hazard materials include flammable gases and combustible and flammable liquids used in piping systems and combustible dusts used in air-conveying systems.

A.8.3.2.12 Where a higher building or higher portion of a building adjoins a lower building at a HC fire wall, the lower building should always have a minimum 30-in. (0.76-m) high parapet. A parapet can be omitted on the higher building if there is at least a 15-ft to 50-ft (4.6-m to 15.2-m) elevation difference, depending on the severity of the fire exposure from the lower building. (Also, see NFPA 80A, Table 2.4.) Where the parapet is not needed, the exterior fire-rated wall construction should extend at least up to the gravel stop. Gravel surfacing or equivalent is still recommended for at least 25 ft (7.6 m) from the HC fire wall in each direction on the higher and lower roof.

A.8.3.2.12.3 For example: If the HC fire wall has a 3-hr fire resistance rating, the structural columns, beams and girders have a fire resistance rating of 3-hr. See Figure A.5.12.3.

A.8.3.2.13 For existing construction where the roof strength is not adequate to support gravel surfacing, the roof should be structurally reinforced to support the gravel. As an alternative, or for new or existing construction where the roof slope is excessive for gravel, the roof should be coated with an approved, lightweight, exterior grade, fire-resistant coating.

For single-ply roofs, where the roof is not adequate to support the specified weight of the ballast stone or paver blocks, it should be similarly reinforced, or the top surface of the roof should be protected with an approved coating, as described previously, if the roof membrane is totally adhered. Mechanically attached, single-ply roof covers normally flex between fasteners, which could cause cracking of a coating.

A.8.3.2.13.2 For buildings within hurricane prone areas as defined by ASCE 7, the presence of roof gravel or slag is not desirable as it can become windborne debris in a high wind event. In such cases, and where acceptable to the authority having jurisdiction, gravel or slag should be embedded into a double flood coat of asphalt or coal tar and rolled into the hot bitumen to ensure full embedment. After cooling, any loose gravel or slag should be removed from the roof.

A.8.3.2.14 Where the specified separation is not practical, a minimum of 25 ft (7.6 m) of separation should be provided, and fire-rated barriers should be constructed on the exposed side of the roof projection. The fire resistance rating should be a minimum of 2 hours if a 4-hour HC fire wall is required and 1 hour where HC fire walls of 3 hours or less are required.

A.8.3.2.16.2 An example of such an end wall configuration is a 4-hour HC fire wall with 2-hour end walls.

A.8.3.3.3 For additional guidance on the design of cantilevered fire walls to provide structural stability, see A.8.3.2.3. Cantilevered fire walls are also known as freestanding fire walls.

A.8.3.3.4 For additional guidance on the design of tied fire walls to provide structural stability, see A.8.3.2.4.

A.8.3.3.5 For additional guidance on the design of double fire walls to provide structural stability, see A.8.3.2.5.

A.8.3.3.8.1 See A.8.3.2.7.

A.8.3.3.10.4 See A.8.3.2.8.4.

A.8.4.2.4 The fire resistance rating of the fire barrier wall is based on specific criteria in NFPA 251. It is based on both structural stability under the fire and hose stream tests and on criteria for temperature transmission through the wall that are designed to prevent ignition of combustible materials on the

Figure A.8.3.2.9 Pipe Penetration.

Figure A.8.3.12.3 3-hour HC Fire Wall.
This is a specialized vehicle for a very narrow and limited application. Only at least one error.

The discussion in Section 8.3 on calculated fir resistance appears to contain

The text on roof structures lacks clarity.

Section 8.3.2.11 seems counterintuitive and incorrect.

Section 8.3.2.9.1.2 is unenforceable and permissive.

of what constitutes a high challenge fire so there is virtually no guidance on prohibited under the current code text.

or 4 hour wall. Since the code is a minimum, I can see no way one would be viable cost-effective solution.

for including "high challenge fire walls" within the subject document. During the Technical Committee FRABLE: The primary reason for my negative ballot is the inclusion of criteria that raise the standard of care to a level far above normal construction that NFPA's documents should support that interest.

AIL policy in its 1999 C Report calls for standards that are "comprehensive, coordinated and contemporary." The criteria within this proposal for a high challenge fire wall are not comprehensive, as they do not include sufficient guidelines for various design applications that are common. The criteria are not coordinated, as there are no specific circumstances where the owner, designer or authority having jurisdiction will know when they should apply this standard. Finally, the lack of information to address common issues of construction that have been known and treated in the codes for years questions whether this standard meets the criteria as a contemporary document.

FRABLE: The primary reason for my negative ballot is the inclusion of "high challenge fire walls" into the document. During the Technical Committee meeting numerous questions and issues were raised regarding the necessity for including "high challenge fire walls" within the subject document. Unfortunately, the substantiation provided did not convince me that the inclusion "high challenge fire walls" in NFPA 5000 was necessary or the only viable cost-effective solution.

FRANCIS: The substantiation says it will allow the use of the 2 hour fire resistance wall in the code. This is already permitted. It claims to allow a 3 or 4 hour wall. Since the code is a minimum, I can see no way one would be prohibited under the current code text.

The broad terms refer to a high challenge fire wall. There is no definition of what constitutes a high challenge fire so there is virtually no guidance on the use of the proposed section. With no guidance on where or when to use such a wall, it is unusable to the various occupancy TCs. In fact, they could specify a more robust structure now if they felt the current requirements were so inadequate as to render them ineffective.

Most of proposed Section 8.3 is guidance or commentary and should be in an Annex.

Section 8.3.2.9.1.2 is unenforceable and permissive.

Section 8.3.2.11 seems counterintuitive and incorrect.

Most of the requirements contained herein are prescriptive in nature, prohibiting equally satisfactory designs. For example, only flat roofs can be built.

The text on roof structures lacks clarity.

The discussion in Section 8.3 on calculated fir resistance appears to contain at least one error.

HOLLAND: I have reservations as to need for the High Challenge Fire Wall. This is a specialized vehicle for a very narrow and limited application. Only one example of where it has been used was given during committee discussion and then I got the impression it was used only because the insurance company insisted as a prerequisite to writing the policy on the building. The building code only needs the traditional information for firewalls to be contained in the code. If a group feels it needs the protection afforded by the HC wall then they can reference NFPA 221. RECOMMEND: Rejection.

RICE: 1. Nowhere in the proposal is there a definition of a “high challenge (HC) fire wall.” Chapter 3 of NFPA 5000 currently contains definitions for both a fire wall and a fire barrier wall.

2. Though the term “walls” was used generically in the draft of NFPA 221, it is not appropriate to use it in proposed Section 8.3 et al. NFPA 5000 where is easy to confuse the content of section when they do not specifically state which types of building elements they regulate. Throughout Section 8.3, the terms high challenge (HC) fire walls, fire walls, and fire barrier walls should be used at all times. I am unaware of any location in NFPA 5000 where this kind of abbreviation occurs.

3. As proposed, the construction parameters e.g., what materials may be used to construct a HC fire wall, will be regulated by 8.2.2.4.2 which states that “The construction materials and details for fire-resistance rated assemblies and systems for walls described shall comply with all other provisions of this Code, except as modified herein.

Therefore, should a HC fire wall be installed within a building of Type III, IV, or V construction, it could be interpreted to be allowed to be constructed of any materials including wood.

4. No place in 8.3.2 is a minimum fire resistance rating of a HC fire wall.

5. The language in 8.3.2.10.1 through 8.3.2.10.4, other than in the title, does it ever say that the requirements for ducts and air transfer openings that penetrate an HC fire wall. Were the title missing, the application of the section would be quite questionable.

6. It is assumed that the Annex note to 8.3.2.9 will be the same as for Section 5.9 in the draft of NFPA 221 (Page 30 of the 11-18-04 draft of NFPA 221). This Annex note states that “Combustibles should be kept at least 1 foot away from pipes, ducts, plates and raceways where they penetrate the wall.” But this is NOT what 8.3.2.9.5 is about. Nowhere in Section 5.9 is there any regulation addressing the distance combustibles must be kept away from HC walls. Section 8.3.2.9.5 regulates “Penetrations of HC fire walls,” which I believe is for ALL types of penetrations, not just penetrations made by combustible items.

7. The content of 8.3.2.14 does not coordinate with the provisions found in other parts of NFPA 5000 for Roof Structures.

8. I am fundamentally against the inclusion of pictures in a building code. Once a picture is inserted, it tends to make people think that that is the only way that code compliance can be achieved and may lead to the dismissal of valid designs.

9. A fundamental and vital item has been omitted from 8.3.3, the minimum fire resistance rating for a fire wall. Currently 8.3.2.1.1 of NFPA 5000 specifically states that “Fire walls shall be of not less than 2-hour fire resistance-rated construction in buildings of any type of construction.”
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-245 Log #342a BLD-BLC  FINAL ACTION: Reject
(8.3, 8.4 and 8.5)


COMMENT ON PROPOSAL NO: 5000-397
RECOMMENDATION: Retain existing text from 5000-2003.
SUBSTANTIATION: I believe I understand the Committee’s intent, but I have difficulty accepting the Committee position that “Based upon the recommendation in Proposal 221-1 (Log #CP3) the Technical Committee accepts the concept of deleting the requirements for fire walls and fire barrier walls currently in NFPA 5000, Sections 8.3 and 8.4 in favor of a reference to NFPA 221 (2005)”. At this stage there is no certainty of what NFPA 221 (2005) will require. The TC may not support what NFPA 221 (2005) requires once its finally completed. Further, I support the position held by some of the negative commentors. It seems to me that there is no longer a need to have NFPA 221 now that NFPA 5000 has been published. Even based on the submitter’s rationale, it would be more appropriate to revise the scope of NFPA 221 to become a Standard for MFL walls, rather than to delete anything from NFPA 5000. I believe the current Committee Action has it backwards. Users of the Building Code should not be required to search individual standards like NFPA 221 during construction of inspections.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. It is vital that the language in NFPA 221 and NFPA 5000, Section 8.3 and 8.4 be coordinated. This will result in modifications to the existing text in NFPA 5000, Section 8.3 and 8.4.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21 Negative: 1
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
EXPLANATION OF NEGATIVE:

5000-246 Log #342b BLD-FIR  FINAL ACTION: Reject
(8.3, 8.4 and 8.5)


COMMENT ON PROPOSAL NO: 5000-398
RECOMMENDATION: See the above recommendation.
SUBSTANTIATION:

COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-247 Log #58 BLD-BLC  FINAL ACTION: Accept in Principle
(8.3 and 8.4)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-399
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-248 Log #59 BLD-BLC  FINAL ACTION: Accept in Principle
(8.3 and 8.4)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-400
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-249 Log #60 BLD-BLC  FINAL ACTION: Accept in Principle
(8.3.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-401
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-250 Log #61 BLD-BLC  FINAL ACTION: Accept in Principle
(8.3.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-402
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-251 Log #62 BLD-BLC FINAL ACTION: Accept in Principle (8.3.1)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-402
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

5000-252 Log #63 BLD-BLC FINAL ACTION: Accept in Principle (8.3.1)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-404
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

5000-252 Log #64 BLD-BLC FINAL ACTION: Accept in Principle (8.3.1)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-404
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

5000-254 Log #65 BLD-BLC FINAL ACTION: Accept in Principle (8.3.1)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-405
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
8.4.6.2 Fire dampers for ducts or air-transfer openings used as opening protective shall comply with Section 8.8.8.

8.4.7 Joints. Joints in fire walls shall comply with Section 8.9.

SUBSTANTIATION: Building on the accepted action on Proposal 5000-397 and with the help of the Joint Task Group between the Building Construction Technical Committee and the Fire Protection Features Technical Committee, the Technical Committee developed Section 8.3.1, General, and 8.4. Fire Barrier Walls, as an extract of Chapter 7 of NFPA 221. The Technical Committee is committed to offering these requirements in NFPA 5000, Chapter 8, and to coordinating them with NFPA 221. See the Committee Substantiation on Proposal 5000-397 for additional background on fire walls and fire barrier walls.

See additional committee recommendations in Comment 5000-256a (Log #CC73) and Comment 5000-272a (Log #CC74) for further action on Section 8.4.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 23 BALLOT RESULTS: Affirmative: 17 Negative: 4 BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

EXPLANATION OF VOTE: COMMENTS: Item 1 - Significance. The criteria are not coordinated, as there are no specific circumstances where the owner, designer or authority having jurisdiction will know when they should apply this standard. Finally, the lack of information to address common issues of construction that have been known and treated in the codes for years should apply this standard. The criteria are not coordinated, as they are not comprehensive, coordinated and contemporary. The criteria within this proposal for a high challenge fire wall are not comprehensive, as they do not include sufficient guidelines for various design applications that are common. The criteria are not coordinated, as they are not specific circumstances where the owner, designer or authority having jurisdiction will know when they should apply this standard. Finally, the lack of information to address common issues of construction that have been known and treated in the codes for years questions whether this standard meets the criteria as a contemporary document.

FRABLE: The primary reason for my negative ballot is the inclusion of “high challenge fire walls” into the document. During the Technical Committee meeting numerous questions and issues were raised regarding the necessity for including “high challenge fire walls” within the subject document.

HOLLAND: I agree with Collins, Frable, and Rice on 5000-254a. Please change my ballot to negative for the same reasons they have given.

I disagree that just because we have always done it this way within a small segment of the industry that a standard should include this narrow view of solving problems. I disagree that just because one material interest or groups of material interests will benefit by the inclusion of criteria that raise the standard of care to a level far above normal construction NFPA’s documents should support that interest.

AIA policy in its 1999 C Report calls for standards that are “comprehensive, coordinated and contemporary.” The criteria within this proposal for a high challenge fire wall are not comprehensive, as they do not include sufficient guidelines for various design applications that are common. The criteria are not coordinated, as there are no specific circumstances where the owner, designer or authority having jurisdiction will know when they should apply this standard. Finally, the lack of information to address common issues of construction that have been known and treated in the codes for years questions whether this standard meets the criteria as a contemporary document.

FRABLE: The primary reason for my negative ballot is the inclusion of “high challenge fire walls” into the document. During the Technical Committee meeting numerous questions and issues were raised regarding the necessity for including “high challenge fire walls” within the subject document.

HOLLAND: I agree with Collins, Frable, and Rice on 5000-254a. Please change my ballot to negative for the same reasons they have given.
FRANCIS: See my explanation of negative on Comment 5000-242.
HOLLAND: I agree with Francis on 5000-256. Please change my ballot to negative for the same reasons he has given.

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RICE: See items 1-8 in my Explanation of Negative on Comment 5000-242.
HOLLAND: I agree with Francis on 5000-255. Please change my ballot to nonbearing.

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REPORT ON COMMENTS

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-407
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

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REPORT ON PROPOSAL NO: 5000-256
SUBMITTER: Technical Committee on Building Construction
COMMENT ON PROPOSAL NO: 5000-397
RECOMMENDATION: Delete Section 8.3 and replace with the following: Insert the following new section 8.3.2:

8.3.2.1 High Challenge Fire Walls. High challenge (HC) fire walls shall meet the requirements of this section and Section 8.7, Section 8.8 and Section 8.9.

8.3.2.2 Structural Stability. [221: 5.2]

8.3.2.2.1 HC fire walls shall be designed and constructed to remain stable after the collapse of the structure due to fire on either side of the wall. [221: 5.2.1]

8.3.2.2.2 HC fire walls constructed in compliance with the requirements of Section 8.3.2.3, 8.3.2.4, or 8.3.2.5 shall be deemed to provide the required stability. [221: 5.2.2.2]

8.3.2.2.3 HC fire walls shall be nonbearing. [221: 5.2.3]

8.3.2.2.4 Structural framing within the plane of the wall shall be permitted to be load-bearing. [221: 5.2.4]

8.3.2.3 Cantilevered HC Fire Walls. Cantilevered HC fire walls shall be entirely self-supported and nonbearing. [221: 5.3]

A.8.3.2.3.2 Walls intended to be used as cantilevered HC fire walls or fire walls in the future and used as temporary exterior walls will be vulnerable to wind damage. Such walls should be designed to resist required wind loads. If the future cantilevered wall is temporarily fastened to the building frame until the addition building is built, care should be taken to ensure that all ties to the wall are fully cut when new construction is completed. [221: A.5.3]

A.8.3.2.3.1 There shall be no connections to the building(s) or contents on either side other than to the flashing. [221: 5.3.1]

A.8.3.2.3.2 Cantilevered HC fire walls shall be erected where there is a complete break in the structural framework. [221: 5.3.2.2]

A.8.3.2.4 Tied HC Fire Walls. [221: 5.4]

A.8.3.2.4.2 Tied HC fire walls or fire walls [see Figure A.8.3.2.4(a)] are fastened to and usually encase members of the structural frame of the building. To remain stable, the pull of the collapsing structural members on the fire side of the wall must be resisted by the strength of the structure on the other side. [221: A.5.4]

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Figure A.8.3.2.4(a) Typical Tied HC Fire Wall or Fire Wall Used With Continuous Building Framework. [See 5000-242, Figure A.8.3.2.4(a)] [221: Figure A.5.4(a)]

Since a fire can occur on either side of the wall, the wall preferably should be located at the center of strength of the building frame. The center of strength is the plane within the building frame in which the structural framing on either side has equal resistance. In small structures, the center of strength generally is in the middle of the building. [See Figure A.8.3.2.4(b)] In large buildings, the center of strength might lie midway between two double-column line expansion joints. [See Figure A.8.3.2.4(c) and Figure A.8.3.2.4(d).] Single-column line expansion joints utilizing beams with slotted connections do not break the continuity of the building frame. [See Figure A.8.3.2.4(e).] [221: A.5.4]

Figure A.8.3.2.4(b) A Tied Wall at the Center of a Continuous Steel Frame. The Pull from Collapsing Steel on Either Side Must Be Resisted By the Lateral Strength of Steel on the Other Side. [See 5000-242, Figure A.8.3.2.4(b)] [221: Figure A.5.4(b)]

Figure A.8.3.2.4(c) Tied Wall Where Framing is Not Continuous Throughout the Building. [See 5000-242, Figure A.8.3.2.4(c)] [221: Figure A.5.4(c)]

Figure A.8.3.2.4(d) Double-Column Line Expansion Joint. [See 5000-242, Figure A.8.3.2.4(d)] [221: Figure A.5.4(d)]

Figure A.8.3.2.4(e) Single-Column Line Expansion Joint Frame is Continuous. [See 5000-242, Figure A.8.3.2.4(e)] [221: Figure A.5.4(e)]

Bolts with nuts and washers are permitted to be used to tie framework across a double-column line. In order to prevent the defeat of the purpose of the expansion joint created by the double-column line, nuts should be backed off slightly about 3/4 in. (19 mm). Where the primary roof framing is perpendicular to the HC fire wall or fire wall, two bolts should tie the roof framing together over each column to provide concentric load distribution. Where the primary roof framing is parallel to the HC fire wall or fire wall, single bolts are permitted to be used; however, intermediate ties might be needed between column lines. A registered civil or structural engineer should be consulted to provide more exact details. [See Figure A.8.3.2.4(f) and Figure A.8.3.2.4(g).] [221: A.5.4]

Figure A.8.3.2.4(f) Through-Wall Tie — Primary Roof Framing Perpendicular to Wall. [See 5000-242, Figure A.8.3.2.4(f)] [221: Figure A.5.4(f)]

Figure A.8.3.2.4(g) Through-Wall Tie — Primary Steel Parallel to HC Fire Wall or Fire Wall. [See 5000-242, Figure A.8.3.2.4(g)] [221: Figure A.5.4(g)]

If the wall is not located at the center of strength, the lateral resistance of the frame on either side of the wall should be sufficient to resist the maximum horizontal component of the force that could result from collapsing structural framework on the opposite side. The horizontal force at each tie should be computed by using the following formula. [221: A.5.4]

\[
H = \frac{wBL^2}{8S}
\]

where:

- \( H \) = horizontal pull per tie [lb (kg)]
- \( w \) = dead load plus 25 percent of the live load of the roof [lb/ft² (kg/m²)]
- \( L \) = span of the structural member running perpendicular to the wall [ft (m)]
- \( B \) = distance between ties [ft (m)]
- \( S \) = sag in ft (m) that can be assumed as 0.07L for open-web trusses
- 0.09L for solid beams
- 0.06L for wood trusses

[See Figure A.8.3.2.4(h).] [221: A.5.4]

Figure A.8.3.2.4(h) Tied HC Fire Wall or Fire Wall with Ties at Each Beam. [See 5000-242, Figure A.8.3.2.4(h)] [221: Figure A.5.4(h)]
8.3.2.4.2.3 The framework on each side shall be designed so that it resists the maximum lateral pull that can be developed due to framework collapse in a fire on the opposite side. [221: 5.4.2.3]

8.3.2.4.2.4 Tied HC fire walls shall be supported laterally by the building framework with flexible anchors. [221: 5.4.2.4]

8.3.2.4.3 Fire Resistance Rating. [221: 5.4.3]

8.3.2.4.3.1 Where centered on a single column line, structural framing at the column line shall have a fire resistance rating of not less than the required fire resistance rating of the HC fire wall. [221: 5.4.3.1]

8.3.2.4.3.2 Where the wall is installed between double column lines, structural framing along the first column line immediately on each side of the HC fire wall shall have a fire resistance rating of not less than the required fire resistance rating of the HC fire wall. [221: 5.4.3.2]

8.3.2.5* Double HC Fire Walls. [221: 5.5]

A.8.3.2.5 Figure A.8.3.2.5(a), Figure A.8.3.2.5(b), and Figure A.8.3.2.5(c) provide three configurations for construction of a double HC fire wall or fire wall. [221: A.5.5]

Where there is an uncontrolled fire on either side of a double HC fire wall or fire wall, one building frame will collapse, pulling the wall on that side with it. The other wall, supported by structural framework on the protected side, will remain in place to stop the spread of fire. [221: A.5.5]

Since there should be no connections between the walls, particular attention should be paid to the details at openings in the walls. [221: A.5.5]

A double HC fire wall or fire wall is most adaptable where an addition to a plant requires a HC fire wall or fire wall between an existing structure and a new building. The existing wall, which is secured to the building frame, is altered, if necessary, to provide the proper fire resistance. Another HC fire wall or fire wall is then constructed adjacent to the existing one and secured to the new building frame. [221: A.5.5]

Figure A.8.3.2.5(a) Double HC Fire Wall or Fire Wall — No Connections. [See 5000-242, Figure A.8.3.2.5(a)] [221: Figure A.5.5(a)]

Figure A.8.3.2.5(b) Double HC Fire Wall or Fire Wall — Separate Horizontal and Vertical Flashing Sections. [See 5000-242, Figure A.8.3.2.5(b)] [221: Figure A.5.5(b)]

Figure A.8.3.2.5(c) Double HC Fire Wall or Fire Wall — Separate Flashing Sections. [See 5000-242, Figure A.8.3.2.5(c)] [221: Figure A.5.5(c)]

8.3.2.5.1 A double HC fire wall shall consist of two parallel walls. [221: 5.5.1]

8.3.2.5.2 There shall be no connections, other than to the flashing, between the walls. [221: 5.5.2]

8.3.2.5.3 Each wall that comprises a double HC fire wall shall be supported laterally by the building frame on its respective side and shall be independent of the other wall and framing on the opposite side. [221: 5.5.3]

8.3.2.6 HC Fire Walls at Elevation Differences. Where the roofs on opposite sides of a HC fire wall are not at the same elevation, the HC fire wall assembly shall be arranged as described in either 8.3.2.6.1 or 8.3.2.6.2. [221: 5.6]

8.3.2.6.1* The two buildings shall be separated by a double HC fire wall, with each wall extending from the foundation to above the roof of its respective building to form a parapet. [221: 5.6.1]

A.8.3.2.6.1 See Figure A.8.3.2.6.2(a). [221: A.5.6.1]

A.8.3.2.6.2 A cantilevered HC fire wall shall be continuous from the foundation to the top of the parapet for the lower roof. [221: 5.6.2]

A.8.3.2.6.2 The exterior fire-rated wall above the cantilevered wall should not overlap the cantilevered wall on the side of the lower building. It can be installed above the cantilevered wall or overlap the cantilevered wall on the side of the higher building [see Figure A.8.3.2.6.2(a) and Figure A.8.3.2.6.2(b)]. In either case, the integrity of the fire resistance rating of the HC fire wall should be maintained by protecting the joint between the cantilevered wall and the exterior HC fire wall attached to the higher building. In some cases, the parapet can be omitted from the higher wall only; however, such a judgment should consider the severity of exposure from the occupancy in the lower building and the elevation difference between the exposure and the top of the higher wall. [221: A.5.6.2]

8.3.2.6.2.1 The upper wall shall be supported by the framework of the higher building and shall be structurally independent of the cantilevered HC fire wall. [221: 5.6.2.1]

8.3.2.6.2.2 The upper wall section shall be permitted to have an exterior fire resistance rating of 1 hour less than the required fire resistance rating of the lower cantilevered portion but not less than a 2-hour rating. [221: 5.6.2.2]
8.3.2.7* Clearance. [221: 5.7]

A.8.3.2.7 Table A.8.3.2.7 is based on steel framework. This table provides clearances that are conservative for other types of framework materials. It is based on an average temperature of 800°F (427°C) in two adjacent bays. [221: A.5.7]

Adequate clearance should be provided between storage and HC fire walls or fire walls to prevent damage to the wall that might result from swelling of absorbent materials due to contact with water. [221: A.5.7]

Table A.8.3.2.7 Minimum Recommended Clearance for Thermal Expansion Between Unprotected Structural Framework and HC Fire Walls or Fire Walls or Between Double HC Fire Walls

<table>
<thead>
<tr>
<th>Length of Bay Perpendicular to the HC Fire Wall or Fire Wall</th>
<th>Minimum Clearance Between Wall and Structural Framework and Between Double Walls</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----</td>
</tr>
<tr>
<td>20</td>
<td>6.1</td>
</tr>
<tr>
<td>25</td>
<td>7.6</td>
</tr>
<tr>
<td>30</td>
<td>9.1</td>
</tr>
<tr>
<td>35</td>
<td>10.7</td>
</tr>
<tr>
<td>40</td>
<td>12.2</td>
</tr>
<tr>
<td>45</td>
<td>13.7</td>
</tr>
<tr>
<td>50</td>
<td>15.2</td>
</tr>
<tr>
<td>55</td>
<td>16.8</td>
</tr>
<tr>
<td>60 or longer</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Source: FM DS 1-22. [221: Table A.5.7]

8.3.2.8 Opening Protectives. [221: 5.8]

8.3.2.8.1 Maximum Area. The total width of all openings in HC fire walls shall not exceed 25 percent of the length of the wall in each story. [221: 5.8.1]

8.3.2.8.2 Single Opening Size. Single opening protectives in HC fire walls shall not exceed the maximum size tested. [221: 5.8.2]

8.3.2.8.3 Fire Doors. HC fire walls shall have each opening protected with two fire door assemblies. [221: 5.8.3]

A.8.3.2.8.3 Figure A.8.3.2.8.3(a) and Figure A.8.3.2.8.3(b) show two methods of arranging a means of egress through a HC fire wall. [221: A.5.8.3]

Figure A.8.3.2.8.3(a) Swinging Door and Sliding Door Configuration for Egress Purposes in a HC Fire Wall. [See 5000-242, Figure A.8.3.2.8.3(a)] [221: Figure A.5.8.3(a)]

Figure A.8.3.2.8.3(b) Vestibule Arrangement for Egress Purposes in a HC Fire Wall. [See 5000-242, Figure A.8.3.2.8.3(b)] [221: Figure A.5.8.3(b)]

8.3.2.8.4 Double HC Fire Walls. Openings in double HC fire walls shall be protected according to 8.3.2.8.4.1 or 8.3.2.8.4.2. [221: 5.8.4]

A.8.3.2.8.4 An example of an arrangement where the alternative of providing two fire doors on a freestanding, fire-resistive vestibule is used and where the opening is used as part of the means of egress is shown in Figure A.8.3.2.8.3(b). Where this alternative is used and where the opening is used for egress, the vestibule should be long enough to allow both doors to swing in the same direction and open completely. [221: A.5.8.4]

An example of an arrangement where the alternative of providing two fire doors on a freestanding, fire-resistive vestibule is used and where the opening is not used as part of the means of egress is shown in Figure A.8.3.2.8.4. [221: A.5.8.4]
8.3.2.9.4 The limitation on the height of penetrations above the floor and other requirements of Section 8.3.2.9 shall not apply where the structural framework of the building has a fire resistance rating equal to or greater than the required fire resistance rating of the HC fire wall; only compliance with Section 8.8 shall be required. [221: 5.9.4]

A8.3.2.9.4 The reason for this alternative is to prevent building collapse near the fire wall that could transfer forces to the HC fire wall via wall penetrations. Where it is not intended to provide fire resistance for structural framework for the entire building that is at least equal to that of the fire wall, providing such protection within the first two bays of the building immediately on each side of the HC fire wall will meet the intent of this alternative. [221: A.5.9.4]

8.3.2.9.5 Piping conveying high hazard materials shall be in accordance with 8.3.2.11. [221: 5.9.5]

8.3.2.10 Ducts and Air Transfer Openings. [221: 5.10] Ducts shall be installed and maintained in accordance with NFPA 90A, [221: 5.10.1]

8.3.2.10.2 HC fire walls shall be protected with two fire damper assemblies. [221: 5.10.2]

8.3.2.10.3 For double HC fire walls, each wall assembly shall be protected with a fire damper rated for that wall with a slip joint connecting the sleeves between the HC fire walls. [221: 5.10.3]

8.3.2.10.4 For cantilevered and tied HC fire walls a slip joint connecting the sleeves shall be provided on both sides of the two dampers (to separate the ductwork on each side from the section containing the dampers) for HC fire walls. [221: 5.10.4]

8.3.2.10.5 Ductwork conveying high hazard materials shall be in accordance with 8.3.2.11. [221: 5.10.5]

5.10.1.1 High hazard materials transported by piping or ductwork passing through HC fire walls have been shown to be a significant avenue of fire propagation across the HC fire wall and should be avoided. Where necessary for these systems to penetrate a HC fire wall with a fire resistance rating of less than 4 hours, the flow of the high hazard materials must be interrupted or otherwise protected by engineered devices or systems specifically designed for such purpose and approved by the authority having jurisdiction. Devices that can be used for this protection include but are not limited to excess-flow valves and fire-safe shutoff valves, pneumatic knife or gate dampers, blower/vacuum shutdown devices, or encapsulation of the piping or ductwork and its supports with material having a fire resistance rating at least equal to that required of the HC fire wall. [221: A.5.11]

Steel-faced HC fire walls with gypsum board core or gypsum board on stud HC fire walls shall be provided with a concrete sandwich where pipes, raceways, or cables penetrate HC fire walls. [221: A.5.9]

A8.3.2.9 Penetrations in HC Fire Walls. [221: 5.9] A8.3.2.9.3 Joint reinforcement shall be provided in the horizontal mortar joints immediately above and below sleeves in concrete masonry walls, and all hollow spaces of concrete masonry walls immediately adjacent to the sleeve shall be filled with concrete, mortar, or grout. [221: 5.9.2.3]

8.3.2.9.3 The clear space between the openings for the penetrating items shall be not less than three times the largest dimension of the largest opening. [221: 5.9.3]
8.3.2.13 Roof Surface Protection. [221: 5.13] Roof surfaces adjacent to the HC fire wall for at least 25 feet on each side shall be constructed and protected in accordance with this section.

A.8.3.2.13 For existing construction where the roof strength is not adequate to support gravel surfacing, the roof should be structurally reinforced to support the gravel. As an alternative, or for new or existing construction where the roof slope is excessive for gravel, the roof should be coated with an approved, lightweight, exterior grade, fire-resistant coating. [221: A.5.13]

For single-ply roofs, where the roof is not adequate to support the specified weight of the ballast stone or paver blocks, it should be similarly reinforced, or the top surface of the roof should be protected with an approved coating, as described previously, if the roof membrane is totally adhered. Mechanically attached, single-ply roof covers normally flex between fasteners, which could cause cracking of a coating. [221: A.5.15]

8.3.2.13.1 Locations Outside High Wind-Prone Regions. For buildings less than or equal to 60 feet in height and located outside hurricane prone regions, as defined by ASCE 7, the roof surface adjacent to HC fire walls for at least 25 ft (7.6 m) on each side shall be protected according to 8.3.2.13.1.1 through 8.3.2.13.1.2. [221: 5.13.1]

8.3.2.13.1.1 For single-ply membranes, gravel ballast or concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ANSI/SPRI RP-4. [221: 5.13.1.1.1]

8.3.2.13.1.2 Built-up and modified bitumen roofs shall be surfaced with gravel or slag applied at a minimum rate of 4 lb/ft² (19 kg/m²) and embedded in a flood coat of hot asphalt or coal-tar. [221: 5.13.1.2]

8.3.2.13.2* Locations Within High Wind-Prone Regions. For buildings greater than 60 feet in height or located within hurricane prone regions, as defined by ASCE 7, the roof surface on each side of the roof adjacent to HC fire walls for at least 25 ft (7.6 m) on each side shall be protected according to 8.3.2.13.2.1 through 8.3.2.13.2.2. [221: 5.13.2]

A.8.3.2.13.2.2 For buildings within hurricane prone areas as defined by ASCE 7, the presence of roof gravel or slag is not desirable as it can become wind-borne debris in a high wind event. In such cases, and where acceptable to the authority having jurisdiction, gravel or slag should be embedded into a double flood coat of hot asphalt or coal-tar to ensure full embedment. After cooling, any loose gravel or slag should be removed from the roof. [221: A.5.13.2]

8.3.2.13.2.1 For single-ply membranes, concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ANSI/SPRI RP-4. [221: 5.13.2.1.1]

8.3.2.13.2.2 Built-up and modified bitumen roofs adjacent to HC fire walls shall be surfaced with gravel or slag embedded in a flood coat of hot asphalt or coal-tar and applied at a minimum rate of 4 lb/ft² (19 kg/m²). [221: 5.13.2.2]

(A) Gravel or slag shall be embedded into a double flood coat of hot asphalt or coal tar to ensure full embedment. [221: 5.13.2.2.1]

(B) After cooling, any loose gravel or slag shall be removed from the roof. [221: 5.13.2.2.2]

(C) All graveled roofs greater than 60 ft in height shall have a minimum parapet height of 24 in. [221: 5.13.2.2.3]

8.3.2.14 Roof Structures. [221: 5.14]

A.8.3.2.14.1 Where the specified separation is not practical, a minimum of 25 ft (7.6 m) of separation should be provided, and fire-rated barriers should be constructed on the exposed side of the roof projection. The fire resistance rating should be a minimum of 2 hours if a 4-hour HC fire wall is required and 1 hour where HC fire walls of 3 hours or less are required. [221: A.5.14]

8.3.2.14.1 Roof structures with combustible construction or contents, such as monitors, penthouses, or cooling towers, not more than 20 ft (6.1 m) in height above the roof shall be located at least 50 ft (15.2 m) from HC fire walls required to have a fire resistance rating exceeding 2 hours. [221: 5.14.1]

8.3.2.14.2 Roof structures with combustible construction or contents over 20 ft (6.1 m) in height shall be provided with a separation distance not less than two and a half times the height of the roof structure from HC fire walls. [221: 5.14.2]

8.3.2.15 Roof Penetrations. Heat and smoke vents, skylights, and unprotected roof penetrations for air-handling equipment or smoke control systems shall be located at least 25 ft (7.6 m) from HC fire walls requiring a fire resistance rating of more than 2 hours and at least 4 ft (1.3 m) from HC fire walls requiring a fire resistance rating of 2 hours or less. [221: 5.15.14]

8.3.2.16 Horizontal Continuity. [221: 5.16]

8.3.2.16.1 HC fire walls shall comply with the requirements of 8.3.2.16.2 through 8.3.2.16.3. [221: 5.16.1]

8.3.2.16.2* End Walls. [221: 5.16.2]

A.8.3.2.16.2 An example of such an end wall configuration is a 4-hour HC fire wall with 2-hour end walls. [221: A.5.16.2]

8.3.2.16.2.1 The length and arrangement of end walls shall be in accordance with Table 8.3.2.16.2.1 and Figure 8.3.2.16.2.1(a) or Figure 8.3.2.16.2.1(b). [221: 5.16.2.1]

<table>
<thead>
<tr>
<th>Height of Exposing Area</th>
<th>Length of End Wall Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>Up to 40</td>
<td>12.2</td>
</tr>
<tr>
<td>41 to 70</td>
<td>21.3</td>
</tr>
<tr>
<td>71 and over</td>
<td>21.6</td>
</tr>
</tbody>
</table>

Note: Protection should consist of blank, fire-rated construction. [221: Table 5.16.2.1.1]

8.3.2.16.2.2 The fire resistance rating of the end walls shall be based on fire exposure from the outside and shall be a minimum of 1 hour, or two hours less than that of the HC fire wall, whichever is greater. [221: 5.16.2.2]

8.3.2.16.2.3 For light hazard and ordinary hazard (Group 1 or 2) occupancies as defined in NFPA 13, in lieu of providing end walls, the fire wall shall be permitted to extend to a distance of at least 30 in. (0.76 m) beyond the exterior face of the exterior walls, as shown in Figure 8.3.2.16.2.3. [221: 5.16.2.3]

Figure 8.3.2.16.2.3 End Wall Exposure Protection — End Walls Tied to Structural Framing. [See 5000-242, Figure 8.3.2.16.2.3(a)] [221: Figure 5.16.2.3(a)]

8.3.2.16.2.4 Openings for truck docks and railroad sidings shall not be located within 20 ft (6.1 m) on either side of a HC fire wall. [221: 5.16.2.4]

8.3.2.16.3 Angle Walls. [221: 5.16.3]

8.3.2.16.3.1 The length of fire-resistive angle walls, Y, as shown in Figure 8.3.2.16.3.1, shall be 35 ft (10.7 m). [221: 5.16.3.1]

8.3.2.16.3.2 The fire resistance rating of the angle walls shall be based on fire exposure from the outside and shall be 1 hour, or 1 hour less than that of the HC fire wall, whichever is greater. [221: 5.16.3.2]

8.3.2.16.3.3 Construction of each wall and eave shall be noncombustible for an additional 65 ft (20 m) beyond the fire resistance–rated construction. [221: 5.16.3.3]

Figure 8.3.2.16.3.3 Angle Wall Exposure Protection. [See 5000-242, Figure 8.3.2.16.3.3] [221: Figure 5.16.3.3]

8.3.2.16.3.4 Elevation differences perpendicular to HC fire walls shall be protected as angle walls, as shown in Figure 8.3.2.16.3.4. [221: 5.16.3.4]

Figure 8.3.2.16.3.4 Exterior Wall Protection. [See 5000-242, Figure 8.3.2.16.3.4] [221: Figure 5.16.3.4]

SUBSTANTIATION: Building on the accepted action on Proposal 5000-397 and with the help of the joint Task Group between the Building Construction Technical Committee and the Fire Protection Features Technical Committee, the Technical Committee developed Section 8.3.2. High Challenge (HC) fire walls, as an extract of Chapter 5 of NFPA 221. The Technical Committee is committed to offering these requirements in NFPA 5000, Chapter 8 as an option to the ‘fire wall’ requirements presented in Comment 5000-272a (Log #CC74) and to coordinating them with NFPA 221. See the Committee Substantiation on Proposal 5000-397 for additional background on the HC fire walls.

If this comment is accepted, it will be inserted as Section 8.3.2; the general section, as presented in Comment 5000-254a (Log #CC75), will be Section 8.3.1; and the section on ‘fire walls’, as presented in Comment 5000-272a (Log #CC74), will be Section 8.3.3.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 18, Negative: 3
BALLOT NOT RETURNED: 2
BARBADORO, FOSTER
EXPLANATION OF NEGATIVE:
COLLINS: Significant work was put into the development of revisions to the NFPA 220 and NFPA 221 standards to correlate them to the NFPA 5000 document. Unfortunately, there was one major exception; high challenge fire walls. This portion of the NFPA 221 document included in NFPA 221-1 is seriously lacking in adequate elements for a standard to be used universally in the construction industry, and should not be permitted in either NFPA 221 or NFPA 5000.

During the final session of review by the Technical Committee significant questions were raised regarding the necessity for this document in a building code were raised. There was no substantiation for its inclusion provided except for the nicety for some industries that have used the standard arbitrarily. I say arbitrarily, because when various design solutions were proffered as part of the discussion as to what the standard meant, there was little understanding of them or possibly hundreds of other options, or the need to address those variable since “that is not the way it has been done.”

I disagree that just because we have always done it this way within a small segment of the industry that a standard should include this narrow view of solving problems. I disagree that just because one material interest or groups of material interest have promoted the inclusion of criteria that raise the standard of care to a level far above normal construction that NFPA’s documents should support that interest.

AIA policy in its 1999 C 7 Report calls for standards that are “comprehensive, coordinated and contemporary.” The criteria within this proposal for a high challenge fire wall are not comprehensive, as they do not include sufficient guidelines for various design applications that are common. The criteria are not coordinated, as there are no specific circumstances where the owner, designer or authority having jurisdiction will know when they should apply this standard. Finally, the lack of information to address common issues of construction that have been known and treated in the codes for years questions whether this standard meets the criteria as a contemporary document.

FRABLE: The primary reason for my negative ballot is the inclusion of “high challenge fire walls” into the document. During the Technical Committee meetings numerous questions and issues were raised regarding the necessity for including “high challenge fire walls” within the subject document. Unfortunately, the substantiation provided did not convince me that the inclusion “high challenged fire walls” in NFPA 5000 was necessary or the only viable cost-effective solution.


COMMENTS ON AFFIRMATIVE

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-410
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-258 Log #69 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2 (New ))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-409
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-259 Log #70 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2 (New ))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-410
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-260 Log #71 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2 (New ))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-411
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-261 Log #350 BLD-BLC FINAL ACTION: Reject
(8.3.2 (New ))

COMMENT ON PROPOSAL NO: 5000-410
RECOMMENDATION: Add new text to read as follows:
8.3.2 Smoke Barriers shall be effectively and permanently identified with signs or stenciling in a manner acceptable to the authority having jurisdiction.
FIRE AND SMOKE BARRIER: PROTECT ALL OPENINGS

SUBSTANTIATION: When buildings are engineered with fire walls designed to contain smoke and/or fire, openings created in these assemblies by ducts, dampers, doors, windows, cable, conduit pipe, ductwork and installed equipment can compromise safety and jeopardize business continuity if not protected effectively. Building modifications, installed equipment, inspections, change orders and construction projects can all generate a need to identify whether a particular assembly is required to act as a barrier to smoke or fire. The addition of the proposed marking during the construction phase of a building is of great benefit to fire officials who conduct inspections over the course of the buildings life cycle and occupancy, and will facilitate ease of inspection during building renovation. Such identification markings would also serve to alert trades people working within the building that as various openings are being made these openings require additional consideration or protection.

The 1999 Standard Building code contained requirements for the marking and identification of horizontal and vertical barriers required to either to have a fire-resistance rating or be effective barriers to the movement of smoke within a building. OSHA also has requirements for marking and labeling of safety features in buildings.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment, since it is outside its jurisdiction. Instead it will defer to action taken by the Technical Committee on Fire Protection Features.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-264 Log #355 BLD-BLC


COMMENT ON PROPOSAL NO: 5000-409

RECOMMENDATION: Add new text to read:
8.3.2 Smoke Barriers shall be effectively and permanently identified with signs or stenciling in a manner acceptable to the authority having jurisdiction. Such identification shall be above any decorative ceiling or in concealed spaces, and shall include the wording:
FIRE AND SMOKE BARRIER: PROTECT ALL OPENINGS.

SUBSTANTIATION: When buildings are engineered with fire walls designed to contain smoke and/or fire, openings created in these assemblies by ducts, dampers, doors, windows, cable, conduit pipe, ductwork and installed equipment can compromise safety and jeopardize business continuity if not protected effectively. Building modifications, installed equipment, inspections, change orders and construction projects can all generate a need to identify whether a particular assembly is required to act as a barrier to smoke or fire. The addition of the proposed marking during the construction phase of a building is of great benefit to fire officials who conduct inspections over the course of the buildings life cycle and occupancy, and will facilitate ease of inspection during building renovation. Such identification markings would also serve to alert trades people working within the building that as various openings are being made these openings require additional consideration or protection.

The 1999 Standard Building code contained requirements for the marking and identification of horizontal and vertical barriers required to either to have a fire-resistance rating or be effective barriers to the movement of smoke within a building. OSHA also has requirements for marking and labeling of safety features in buildings.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this comment, since it is outside its jurisdiction. Instead it will defer to action taken by the Technical Committee on Fire Protection Features.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-265 Log #72 BLD-BLC

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-412

RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-266 Log #73 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2.6 and A.8.3.2.6)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-267 Log #74 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2.8)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-268 Log #75 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2.8)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-269 Log #76 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2.10.1)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-270 Log #77 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.2.10.1)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-271 Log #78 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.3)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-272 Log #79 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.3)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

5000-272a Log #CC74 BLD-BLC FINAL ACTION: Accept in Principle
(8.3.3)

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBSTANTIATION: See the above recommendation.
8.3.3.1.1 Where both buildings being separated are of Type V construction, fire walls of combustible construction are permitted.

8.3.3.1.2 The fire resistance rating of fire walls, regardless of the type of construction of the buildings being separated, shall not be less than the greater of the following:

1. The fire resistance ratings required by Table 6.2.4.1 where separating buildings contain different occupancies;
2. The fire resistance ratings required by Table 34.3.2.3 where separating buildings contain high hazard contents required to comply with Protection Level 1, 2, 3, 4, or 5;
3. Three hours where at least one of the buildings is an industrial occupancy with ordinary hazard contents, bulk retail mercantile, or storage occupancy with ordinary hazard contents; or
4. 2 hours.

8.3.3.2 Structural Stability.

8.3.3.2.1 Fire walls shall be designed and constructed to remain stable after collapse of the structure due to fire on either side of the wall. [221: 6.2.1]
8.3.3.2.2 Fire walls constructed in compliance with the requirements of Section 8.3.3.3, 8.3.3.4 or 8.3.3.5 shall be deemed to provide the required stability. [221: 6.2.2]
8.3.3.2.3 Design Loads. All walls and their supports shall be designed for loads in accordance with Chapter 35 and to withstand a minimum uniform load of 5 lb/ft² (0.24 kPa) from either direction applied perpendicular to the face of the wall. [221: 4.2]
8.3.3.2.4 Impact Damage. [221: 4.6]
8.3.3.2.4.1 Where the wall is subject to impact damage from moving vehicles or the handling of merchandise or other activity, protection against impact damage shall be provided for an appropriate height but not less than 5 ft (1.5 mm) from the finished floor. [221: 4.6.1]
8.3.3.2.4.2 Where the protective covering of a structural element required to have a fire resistance rating is subject to impact damage from moving vehicles or the handling of merchandise or other activity, protection against impact damage shall be provided for an appropriate height but not less than 5 ft (1.5 mm) from the finished floor. [221: 4.6.2]
8.3.3.2.5 Cantilevered Fire Walls. Cantilevered fire walls shall be entirely self-supported and nonbearing. [221: 6.3]
8.3.3.2.5.1 For additional guidance on the design of cantilevered fire walls to provide structural stability, see A.8.3.2.3. Cantilevered fire walls are also known as freestanding fire walls. [221: A.6.3]
8.3.3.2.5.2 Such walls shall be erected where there is a complete break in the structural framework. [221: 6.3.2]
8.3.3.2.5.3 Tied Fire Walls. [221: 6.4]
8.3.3.2.5.4 For additional guidance on the design of tied fire walls to provide structural stability, see A.8.3.2.4.2. [221: A.6.4.4]
8.3.3.2.5.5 Placement. Tied fire walls shall be centered on a single column line or constructed between double column lines. [221: 6.4.1]
8.3.3.2.5.6 Framework. [221: 6.4.2]
8.3.3.2.5.6.1 Structural framing on either side of the wall shall line up horizontally and vertically and shall support the roof. [221: 6.4.2.1]
8.3.3.2.5.6.2 The framework on each side of the fire wall shall be continuous or tied together through the wall. [221: 6.4.2.2]
8.3.3.2.5.6.3 The framework on each side shall be designed so that it resists the maximum lateral pull that can be developed due to framework collapse in a fire on the opposite side. [221: 6.4.2.3]
8.3.3.2.5.6.4 Tied fire walls shall be supported laterally by the building framework with flexible anchors. [221: 6.4.2.4]
8.3.3.2.5.6.5 Fire-Resistence Rating. [221: 6.4.3]
8.3.3.2.5.6.5.1 Where centered on a single column line, structural framing (i.e., columns and beams or trusses) at the column line shall have a fire resistance rating of not less than the required fire resistance rating of the fire wall. [221: 6.4.3.1]
8.3.3.2.5.6.5.2 Where the wall is installed between double column lines, framing along the first column line immediately on each side of the fire wall shall have a fire resistance rating of not less than the required fire resistance rating of the fire wall. [221: 6.4.3.2]

8.3.3.5 Double Fire Walls. [221: 6.5.5]
8.3.3.5.1 A double fire wall shall consist of two back-to-back walls. [221: 6.5.1]
8.3.3.5.2 There shall be no connections, other than to the flashing, between the walls. [221: 6.5.2]
8.3.3.5.3 Each fire wall shall be supported laterally by the building frame on its respective side and shall be independent of the fire wall and framing on the opposite side. [221: 6.5.3]
8.3.3.5.4 Where either wall of a double wall is laterally supported by a building frame with a fire resistance rating less than that required for the wall, double wall assemblies shall be considered to have a combined assembly fire resistance rating as specified in Table 8.3.3.5.4. [221: 4.5]
8.3.3.5.5 Double walls are very common with unprotected frames. The individual walls separate the building frame that laterally supports them from a fire exposure on the opposite side. However, collapse of the respective building frame and wall on the side of fire origin could occur within 1/2 hour or less. Table 8.3.3.5.4 estimates that about 1 hour will transpire between fire origin, collapse of the respective building frame and fire wall, and rekindling of the fire.

Table 8.3.3.5.4 Fire Resistance Ratings for Double Wall Assemblies

<table>
<thead>
<tr>
<th>Fire Resistance Rating of Each Wall (hours)</th>
<th>Equivalent to Single Wall (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

8.3.3.6 Fire Wall Termination. Fire walls shall extend from the foundation to a point at least 30 in. (914 mm) above the surface of the roof except when installed in accordance with 8.3.3.6.1 through 8.3.3.6.5. [221: 6.6]

8.3.3.6.1 Buildings Located Above Parking Garages. A building located above a parking garage shall be permitted to have the fire walls for the building located above the parking garage extend from the horizontal separation between the parking garage and the building. Provided all of the conditions in 7.4.3.6.5 are met. [221: 6.6.1]

8.3.3.6.2 Two-Hour Fire-Resistance-Rated Noncombustible or Limited-Combustible Roof Assemblies. Fire walls shall be permitted to terminate against the underside of noncombustible or limited-combustible roof sheathing, deck, or slab where the roof assembly and the entire length and span of supporting elements for the roof assembly has a fire resistance rating of not less than 2 hours. [221: 6.6.2]

8.3.3.6.3 Two-Hour Fire-Resistance-Rated Fire Walls. Fire walls shall be permitted to terminate at the underside of roof sheathing, deck, or slab, provided that all of the following criteria are met:

1. The fire wall has a required fire resistance rating of not more than 2 hours.
2. The roof assembly within 4 ft (1.2 m) of the fire wall has not less than a Class B roof covering.
3. Openings in the roof are not located within 4 ft (1.2 m) of the fire wall.
4. The roof is provided with not less than a Class B roof covering. [221: 6.6.3]

8.3.3.6.4 Type I or Type II Construction. [221: 6.6.4]

8.3.3.6.4.1 In buildings of Type I or Type II construction, fire walls shall be permitted to terminate at the underside of noncombustible roof sheathing, deck, or slabs where the roof is provided with not less than a Class B roof covering. [221: 6.6.4.1]

8.3.3.6.4.2 Openings in the roof of a building of Type I or Type II construction shall not be located within 4 ft (1.2 m) of the fire wall. [221: 6.6.4.2]

8.3.3.6.5 Types III, IV, or V Construction. In buildings of Type III, Type IV, and Type V construction, fire walls shall be permitted to terminate at the underside of roof sheathing or deck in accordance with 8.3.3.6.5.1, 8.3.3.6.5.2, or 8.3.3.6.5.3. [221: 6.6.5]

8.3.3.6.5.1 Fire walls shall be permitted to terminate at the underside of roof sheathing or deck provided that all of the following criteria are met:

1. The roof assembly within 4 ft (1.2 m) of each side of the fire wall is of fire retardant-treated wood.
2. The roof is provided with not less than a Class B roof covering.
3. Openings in the roof are not located within 4 ft (1.2 m) of the fire wall. [221: 6.6.5.1]
8.3.3.6.5.2 Fire walls shall be permitted to terminate at the underside of the roof sheathing, where the roof sheathing or deck is constructed of approved noncombustible or limited-combustible materials or of fire retardant–treated wood for a distance of 4 ft (1.2 m) on both sides of the wall. [221: 6.6.5.2]

8.3.3.6.5.3 Fire walls shall be permitted to terminate at the roof sheathing or deck, provided all of the following criteria are met:

1. The underside of the roof sheathing or deck is protected with 5/8 in. (15.9 mm) Type X gypsum board applied directly beneath the underside of the roof sheathing or deck.
2. The Type X gypsum board is supported by a minimum of 2 in. (51 mm) ledgers attached to the sides of the roof framing members.
3. The Type X gypsum board is applied on both sides of the fire wall for a minimum distance of 4 ft (1.2 m) on both sides of the fire wall.
4. Openings in the roof are not located within 4 ft (1.2 m) of the fire wall.
5. The roof is covered with a minimum Class C roof covering. [221: 6.6.5.3]

8.3.3.7 Fire Walls with Elevation Differences. Where a fire wall separates parts of a building having different heights, such fire wall shall be permitted to comply with the following:

1. Terminate at a point 36 in. (914 mm) above the lower roof level where the exterior wall for a height of 10 ft (3048 mm) above the lower roof is 1-hour fire–resistance–rated construction with openings protected by assemblies having a fire protection rating of not less than 3/4 hour. [221: 6.9.2.2]
2. Terminate at the sheathing of the lower roof where the exterior wall is without openings and where the roof is of at least 1-hour fire–resistance–rated construction for a width of at least 10 ft (3048 mm), measured from the wall. [221: 6.7]

8.3.3.8 Clearance. [221: 6.8]

8.3.3.8.1 Clearances to allow for expansion of unprotected structural framework shall be provided. [221: 6.8.1]

A.8.3.3.8 See A.8.3.2.7. [221: A.6.8.1]

8.3.3.8.2 This space shall be provided between cantilevered walls and structural framework on each side and between double walls. [221: 6.8.2]

8.3.3.8.3 If buildings assigned to Seismic Design Category C, D, E or F, as determined in accordance with ASCE/SEI 7, sufficient separation shall be provided between cantilevered fire walls and adjacent framing on each side and between double walls to allow independent movements of the elements without contact. [221: 6.8.2]

8.3.3.9 Horizontal Continuity. [221: 6.9]

8.3.3.9.1 Horizontal Termination of Fire Walls. [221: 6.9.1]

8.3.3.9.1.1 Fire walls shall be continuous in one of the following situations:

1. From exterior wall to exterior wall and extending at least 18 in. (457 mm) beyond the exterior surface of exterior walls
2. From an exterior wall extending at least 18 in. (457 mm) beyond the exterior surface of exterior walls to a fire wall with the same fire resistance rating.
3. From fire wall to fire wall, with the same fire resistance ratings. [221: 6.9.1.1]

8.3.3.9.1.2 Fire walls shall be permitted to terminate at the interior face of exterior sheathing, siding, or other exterior finishes where the exterior sheathing, siding, or other exterior finishes are noncombustible or limited combustible and extend 4 ft (1.2 m) on both sides of the fire wall. [221: 6.9.1.2]

8.3.3.9.2 Horizontal Projecting Elements. Fire walls shall extend to the outer edge of horizontal projecting elements such as balconies, roof overhangs, canopies, marquees and architectural projections that are within 4 feet (1220 mm) of the fire wall unless otherwise permitted by 8.3.3.9.2.1, 8.3.3.9.2.2, or 8.3.3.9.2.3. [221: 6.9.2]

8.3.3.9.2.1 Fire walls shall not be required to extend to the outer edge of horizontal projecting elements without concealed spaces where the following conditions are met:

1. The exterior wall behind and below the projecting element has not less than 1-hour fire-resistance rating.
2. Openings within such exterior walls are protected by assemblies having a fire protection rating of not less than 3/4 hour. [221: 6.9.2.2]

8.3.3.9.2.2 Fire walls shall not be required to extend to the outer edge of noncombustible horizontal projecting elements with concealed spaces where the following conditions are met:

1. A wall having a fire resistance rating of not less than 1-hour extends through the concealed space.
2. The projecting element is separated from the building by construction having a fire resistance rating of not less than 1-hour for a distance on each side of the fire wall equal to the depth of the projecting element. [221: 6.9.2.2]

8.3.3.9.2.3 Fire walls shall not be required to extend to the outer edge of combustible horizontal projecting elements with concealed spaces where the following conditions are met:

1. The fire wall extends through the concealed space to the outer edges of the projecting elements.
2. The exterior wall behind and below the projecting element has a fire resistance rating of not less than 1-hour for a distance not less than the depth of the projecting elements on both sides of the fire wall.
3. Openings within such exterior walls are protected by assemblies having a fire–protection rating of not less than 3/4 hour. [221: 6.9.2.3]

8.3.3.10 Opening Protective. Openings permitted in fire walls shall comply with Sections 8.3.3.10.1 through 8.3.3.10.4 and 8.7. [221: 6.10]

8.3.3.10.1 Maximum Openings. The total width of all openings in fire walls shall not exceed 25 percent of the length of the wall in each story. [221: 6.10.1]

8.3.3.10.2 Single Opening Size. [221: 6.10.2]

8.3.3.10.2.1 Single opening protective in fire walls shall not exceed the maximum size tested. [221: 6.10.2.1]

8.3.3.10.2.2 Single opening protective in fire walls shall not be limited in size where the buildings on both sides of the fire wall are protected throughout by automatic sprinkler systems in accordance with NFPA 13 or NFPA 13R. [221: 6.10.2.2]

8.3.3.10.3 Double Fire Walls. Openings in double fire walls shall be protected using one fire door in each separate wall. [221: 6.10.3]

8.3.3.10.3.1 See A.8.3.2.8.4. [221: A.6.10.3]

8.3.3.10.4 Material Handling Systems. Where material handling systems penetrate a fire wall, the system design shall provide a method to stop the material handling system and allow fire doors to close without obstruction. [221: 6.10.4]

8.3.3.11 Penetrations. Penetrations in fire walls, including fire dampers for ducts and air transfer openings, shall comply with Section 8.8.

8.3.3.12 Joints. Joints in fire walls shall comply with Section 8.9.

Item 2. Substitute the following Annex notes in Item 1 if, and only if, the Committee Recommendation in 5000- (Log#CC73) is rejected.

A.8.3.3.3 Walls intended to be used as cantilevered fire walls in the future and used as temporary exterior walls will be vulnerable to wind damage. Such walls should be designed to resist required wind loads. If the future cantilevered wall is temporarily fastened to the building frame until the additional building is built, care should be taken to ensure that all ties to the wall are fully cut when new construction is completed. [221: A.6.3]

A.8.3.3.4 Tied fire walls shall be designed to resist the pull from collapsing structural members on the fire side of the wall must be resisted by the strength of the structure on the other side. [221: A.6.4]

Since a fire can occur on either side of the wall, the wall preferably should be located at the center of strength of the building frame. The center of strength is the plane within the building frame in which the structural framing on either side has equal resistance. In small structures, the center of strength generally is in the middle of the building. [See Figure A.8.3.3.3(b).] In large buildings, the center of strength might lie midway between two double-column line expansion joints. [See Figure A.8.3.3.3(c) and Figure A.8.3.3.3(d)] Single-column line expansion joints utilizing beams with slotted connections do not break the continuity of the building frame. [See Figure A.8.3.3.3(e).]

Figure A.8.3.3.3(b) A Tied Wall at the Center of a Continuous Steel Frame. The Pull from Collapsing Steel on Either Side Must Be Resisted By the Lateral Strength of Steel on the Other Side. [See 5000-242, Figure A.8.3.2.4(b)]

Figure A.8.3.3.3(c) Tied Wall Where Framing is Not Continuous Throughout the Building. [See 5000-242, Figure A.8.3.2.4(c)]

Figure A.8.3.3.3(d) Double-Column Line Expansion Joint. [See 5000-242, Figure A.8.3.2.4(d)]

Figure A.8.3.3.3(e) Single-Column Line Expansion Joint Frame is Continuous. [See 5000-242, Figure A.8.3.2.4(e)]
Bolts with nuts and washers are permitted to be used to tie framework across a double-column line. In order to prevent the defeat of the purpose of the expansion joint created by the double-column line, nuts should be backed off slightly about 3/4 in. (19 mm). Where the primary roof framing is perpendicular to the fire wall, two bolts should tie the roof framing together every 60 ft m (19 m). Where the primary roof framing is parallel to the fire wall, only one bolt is permitted to be used; however, intermediate ties might need to be added between column lines. A registered civil or structural engineer should be consulted to provide more exact details. [See Figure A.8.3.3.4(f) and Figure A.8.3.3.4(g).]

Figure A.8.3.3.4(f) Through-Wall Tie — Primary Roof Framing Perpendicular to Wall. [See 5000-242, Figure A.8.3.2.4(f)]

If the wall is not located at the center of strength, the lateral resistance of the frame on either side of the wall should be sufficient to resist the maximum horizontal component of the force that could result from collapsing structural framework on the opposite side. The horizontal force at each tie should be computed by using the following formula.

\[ H = \frac{wBL^2}{8S} \]

where:
- \( H \) = horizontal pull per tie [lb (kg)]
- \( w \) = dead load plus 25 percent of the live load of the roof [lb/ft² (kg/m²)]
- \( L \) = span of the structural member running perpendicular to the wall [ft (m)]
- \( B \) = distance between ties [ft (m)]
- \( S \) = sag in ft (m) that can be assumed as 0.07L for open-web trusses
  - 0.09L for solid beams
  - 0.06L for wood trusses

[See Figure A.8.3.3.4(h).]

Figure A.8.3.3.4(h) Tied Fire Wall with Ties at Each Beam. [See 5000-242, Figure A.8.3.2.4(h)]

A.8.3.3.5 Figure A.8.3.3.5(a), Figure A.8.3.3.5(b), and Figure A.8.3.3.5(c) provide three configurations for construction of a double fire wall.

Where there is an uncontrolled fire on either side of a double fire wall, one building frame will collapse, pulling the wall on that side with it. The other wall, supported by structural framework on the protected side, will remain in place to stop the spread of fire.

Since there should be no connections between the walls, particular attention should be paid to the details at openings in the walls. [221: A.6.5]

A double fire wall is most adaptable where an addition to a plant requires a fire wall between an existing structure and a new building. The existing wall, which is secured to the building frame, is altered, if necessary, to provide the proper fire resistance. Another fire wall is then constructed adjacent to the existing one and secured to the new building frame. [221: A.6.5]

Figure A.8.3.3.5(a)Double Fire Wall — No Connections. [See 5000-242, Figure A.8.3.2.5(a)]

Figure A.8.3.3.5(b) Double Fire Wall — Separate Horizontal and Vertical Flashing Sections. [See 5000-242, Figure A.8.3.2.5(b)]

Figure A.8.3.3.5(c) Double Fire Wall — Separate Flashing Sections. [See 5000-242, Figure A.8.3.2.5(b)]

A.8.3.3.8.1 Table A.8.3.3.8.1 is based on steel framework. This table provides clearances that are conservative for other types of framework materials. It is based on an average temperature of 80°F (42°C) in two adjacent bays.

Adequate clearance should be provided between storage and fire walls to prevent damage to the wall that might result from swelling of absorbent materials due to contact with water. [221: A.6.8.1]

### Table A.8.3.3.8.1 Minimum Recommended Clearance for Thermal Expansion Between unprotected Structural Framework and HC Fire Walls or Fire Walls or Between double HC Fire Walls

<table>
<thead>
<tr>
<th>Length of Bay Perpendicular to the HC Fire Wall or Fire Wall</th>
<th>Minimum Clearance Between Wall and Structural Framework and Between Double Walls</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft m</td>
<td>in cm</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>20</td>
<td>6.1</td>
</tr>
<tr>
<td>25</td>
<td>7.6</td>
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<tr>
<td>30</td>
<td>9.1</td>
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<td>35</td>
<td>10.7</td>
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<tr>
<td>45</td>
<td>13.7</td>
</tr>
<tr>
<td>50</td>
<td>15.2</td>
</tr>
<tr>
<td>55</td>
<td>16.8</td>
</tr>
<tr>
<td>60 or longer</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Source: FM DS 1-22.

A.8.3.3.10.3 An example of an arrangement where the alternative of providing two fire doors on a freestanding, fire-resistive vestibule is used and where the opening is used as part of the means of egress is shown in Figure A.8.3.3.10.3(a). Where this alternative is used and where the opening is used for egress, the vestibule should be long enough to allow both doors to swing in the same direction and open completely.

An example of an arrangement where the alternative of providing two fire doors on a freestanding, fire-resistive vestibule is used and where the opening is not used as part of the means of egress is shown in Figure A.8.3.3.10.3(b). [221: A.6.10.3]

Figure A.8.3.2.10.3(a) Vestibule Arrangement for Egress Purposes in a Fire Wall. [See 5000-242, Figure A.8.3.2.3(b)] [221: Figure A.5.8.3(b)]

Figure A.8.3.3.10.3(b) Double Doors on a Freestanding Vestibule. [221: Figure A.5.8.4]

A.8.3.3.10.4 Limited guidance on protection used where material handling systems penetrate fire walls can be found in NFPA 80. Additional guidance can be found in FM Global Loss Prevention Data Sheet I-23. [221: A.6.10.4]

### SUBSTANTIATION:
Building on the accepted action on Proposal 5000-397 and with the help of the joint Task Group between the Building Construction Technical Committee and the Fire Protection Features Technical Committee, the Technical Committee developed Section 8.3.3, Fire Walls, as an extract of Chapter 6 of NFPA 221. The Technical Committee is committed to offering these requirements in NFPA 5000. Chapter 8 as an option to the ‘HC fire wall’ requirements presented in Comment 5000-256a (Log #CC73) and to coordinating them with NFPA 221. See the Committee Substantiation on Proposal 5000-397 for additional background on fire walls.

Please note, if Comment 5000-256a (Log #CC73) is successful, the annex notes contained in Item #2 will not be used. However, if Comment 5000-256a (Log #CC73) is not successful, the annex notes contained in Item #2 will be substituted in lieu of the annex notes in Item #1 and this entire section will be renumbered as Section 8.3.2.

### COMMITTEE MEETING ACTION:
Accept

### NUMBER ELIGIBLE TO VOTE: 23

### BALLOT RESULTS:
Affirmative: 21

### BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
SUBMITTER: Wayne D. Holmes, HSB Professional Loss Control
COMMENT ON PROPOSAL NO: 5000-426
RECOMMENDATION: Reconsider and accept the proposal.
SUBSTANTIATION: The submitter proposed 30 in. extension of fire walls to be consistent with NFPA 221. 7.5.2 Note that NFPA 221, 7.5.2 applies to light hazard and ordinary hazard occupancies as defined by NFPA 13. The Technical Committee inappropriately keyed on the reference to “high challenge fires” which was mentioned in the submitter’s substantiation as additional substantiation. The primary substantiation was to create consistency between the NFPA 5000 Code and the new NFPA 221 Standard. It is appropriate and justified to specify a 30 in. extension in NFPA 5000, 8.3.6.1.
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action on Comment 5000-242.
COMMITTEE MEETING ACTION: Accept in Principle
SUBMITTER: The Technical Committee met the intent of the commenter in Comment 5000-242.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-282 Log #88 BLD-BLC  FINAL ACTION: Accept in Principle
(8.3.6.2)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-428
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-283 Log #89 BLD-BLC  FINAL ACTION: Accept in Principle
(8.3.6.2)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-429
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-284 Log #90 BLD-BLC  (8.3.7, 8.3.8, and 8.3.9 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-430
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-285 Log #91 BLD-BLC  (8.3.7, 8.3.8, and 8.3.9 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-431
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-286 Log #92 BLD-BLC  (8.4.2.2 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-432
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-287 Log #93 BLD-BLC  (8.4.2.2.1 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-433
RECOMMENDATION: Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
COMMITTEE STATEMENT: No action is necessary.

BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 23
BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept

Balls were reviewed and no additional action is necessary.

COMMITTEE STATEMENT: No action is necessary.

COMMITTEE STATEMENT: As requested in the comment, the proposal was reviewed and no additional action is necessary.

RECOMMENDATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject

COMMITTEE MEETING ACTION: Reject

RECOMMENDATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: See my Explanation of Negative on Comment 5000-242.

Balls were reviewed and no additional action is necessary.

COMMITTEE STATEMENT: No new information has been provided. The committee further notes that the neutral plane will be on the outside of the shaft and that positive pressures could exist on the elevator doors. No new information has been provided. The committee further notes that the neutral plane will be on the outside of the shaft and that positive pressures could exist on the elevator doors.

RECOMMENDATION: Revise the Committee's Action on Section 8.7.12.1 as

8.7.12.1 Fire protection-rated glazed used in doors shall bear the following four-part identification: “D – H or NH – T or NT – XXX”. “D” indicates that the glazing shall be used in fire door assemblies and that the glass meets the fire resistance requirements of the test standard. “H” shall indicate that the glazing meets the hose stream requirements of the test standard. “NH” shall indicate that the glazing does not meet the hose stream requirements of the test. “T” shall indicate that the glazing shall have a maximum transmitted temperature endpoint of not more than 450°F (230°C) above ambient at the end of 50 minutes of standard fire test exposure. “NT” shall indicate that the glazing does not have a temperature rise rating. The placeholder “XXX” shall specify the fire-protection rating period, in minutes.

SUBSTANTIATION: This comment addresses concerns expressed by the Committee regarding the temperature rating portion of the label. This comment retains the temperature limit identifier and adds additional information as to its meaning.

The ICC-IBC has adopted the labeling system that was proposed in Proposal 5000-449. The ICC-IBC does have requirements for temperature transmission through doors and glazing installed in doors in specific applications. While NFPA 5000 does not currently have a requirement for temperature transmission for doors or glazing in doors, the comment language will maintain consistency between the various Codes.

The new language is based on the testing requirements of the ICC-IBC and thus manufacturers will not have to have different labels for NFPA or ICC-IBC. One label will suffice for both Codes.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 21 Negative: 1

EXPLANATION OF NEGATIVE:

HOLMES: NFPA Regulations Governing Committee Projects, 3-3.7.4, requires that “TC’s shall include such references only after review of such Documents or publications, satisfying themselves that the references are adequate and appropriate.”

For the record, copies of the proposed reference, ASTM E 2174, were not provided to the Technical Committee during the ROP cycle and only limited copies were distributed to the TC during the ROC meeting. The technical committee members were not provided with the reference document with sufficient time to review the document and satisfy themselves that the reference is adequate or appropriate.

5000-292 Log #96 BLD-FIR  FINAL ACTION: Accept in Principle
(8.9.2.1)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-450
RECOMMENDATION: Give consideration to Holmes’ explanation of negative and Humble’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

The committee gave consideration to the submitter’s recommendation. No specific action is necessary as the committee reaffirmed the action it took with respect to Proposal 5000-450 as documented in the ROP.

COMMITTEE STATEMENT:
The committee notes that copies of the referenced document, ASTM E 2174, were not distributed with the agenda. While the submitter of Proposal 5000-292 did not provide sufficient copies of ASTM E 2174, which is protected by copyright laws, for distribution to all committee members, he did provide two copies of ASTM E 2174 to NFPA, and made five copies of ASTM E 2174 available during the ROC meeting.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22
COMMITEE MEETING AFFIRMATIVE:

KOFFEL: It should be noted that I did have an opportunity to review ASTM E2174 prior to voting on both the proposal and the comment.

TARABA: It should be noted that I did have an opportunity to review ASTM E2174 prior to voting on both the proposal and the comment.

WOD: I am voting in support of the Committee’s action on 5000-292 (Log #96) but want to comment relative to the ‘Committee Statement’ that was offered. The Committee’s Statement noted that “copies of the referenced document, ASTM E 2174, were not distributed with the agenda. While the submitter of Proposal 5000-292 did not provide sufficient copies of ASTM E 2174, which is protected by copyright laws, for distribution to all committee members, he did provide two copies of ASTM E 2174 to NFPA, and made five copies of ASTM E 2174 available during the ROC meeting’. Although the statement is accurate, it appears to be prejudicial when compared to the document distributions that have been supplied to the Committee relative to other proposals. Most notably, the Committee took action only 5000-118 (Log #288b) on this same day that contains a multitude of updated documents and references that were also not distributed to the Committee with the agenda. Yet, the Committee has inserted no statement relative to that proposal as it has done here.

5000-293 Log #535 BLD-FIR  FINAL ACTION: Reject
(8.9.3)


COMMENT ON PROPOSAL NO: 5000-457
RECOMMENDATION: Revise the current text in Section 8.9.3 as follows:

8.9.3.1* General, The provisions of 8.9.3 are intended to restrict the interior vertical passage of flame and hot gases from one floor to another at the location where the floor intersects the inside of an exterior curtain wall assembly. Floor assemblies that are required to have a fire resistance rating shall extend to the exterior curtain wall as specified in 8.9.3.1.1.

8.9.3.1.1 Where framed exterior walls contain concealed spaces that bypass the ends of a floor assembly required to have a fire resistance rating, the concealed space located within the plane of the floor assembly shall be sealed as specified in 8.9.3.2.

8.9.3.2 Where fire-resistance-rated floor or floor-ceiling assemblies are required to extend to the exterior wall, any joints, gaps, or other voids created at the intersection of the exterior curtain wall assemblies and such floor or floor-ceiling assemblies shall be sealed with approved materials.

8.9.3.2.1 The approved materials specified in 8.9.3.2 shall be securely installed in accordance with the approved system as prescribed in 8.9.3.2.2.

8.9.3.2.2 Fire Resistance Rating Period

5000-293 Log #535 BLD-FIR  FINAL ACTION: Reject
(8.9.3)

5000-293 Log #535 BLD-FIR  FINAL ACTION: Reject
(8.9.3)

5000-293 Log #535 BLD-FIR  FINAL ACTION: Reject
(8.9.3)

5000-293 Log #535 BLD-FIR  FINAL ACTION: Reject
(8.9.3)
Fourth, a maximum joint width has been arbitrarily set at 12 inches for non-rated curtain walls since it has been expressed that joint widths as large as 18 inches were unacceptable. We believe that the 12 inch joint width sets a reasonable maximum while still allowing flexibility in construction practices. And the concerns expressed have not been provided a referenced methodology. The most recent developments have been developed by ASTM to address the protection of the joint. That standard is designated as ASTM E 2307-2004 which was recently published by ASTM. It is a result of about 10 years of work by ASTM Committee E5 Fire Standards to develop a method for determining the fire resistance of perimeter fire barrier systems. The testing method utilizes the intermediate-scale multi-story test apparatus which is the same as that used in NFPA 285 Standard Method of Test for the Evaluation of Flamability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multi-Story Test Apparatus. The ASTM E2307 test method provides a standardized fire test for this specific application where the exterior curtain wall does not have a fire resistance rating and the floor construction does. Therefore, for the case where the curtain wall has a fire resistance rating as does the floor, we propose directly referencing Sections 713.1 through 713.3 for testing fire resistance rated joints in accordance with ASTM E1966 or UL2079. These test methods are specifically designed to test those types of joints and are suitable for testing to limit interior fire spread at the joint intersection.

The ultimate purpose of this comment is to recognize that fire testing requirements are different depending upon whether the exterior curtain wall has a fire resistance rating or is allowed to be non-rated. The test conditions necessarily must be different because of the types of apparatus needed or which are available to conduct the test and also because the fire behaviour of the curtain wall will be different for non fire resistance rated curtain walls vs. fire resistance curtain walls. It can not be expected to have non fire resistance rated curtain walls remain in place for the entire test duration if the test duration is based on the fire resistance rating of the floor construction. Therefore, this comment provides for a method of testing that condition based on the recently developed ASTM E2307 fire test method while recognizing that fire resistance rated curtain walls intersecting fire resistance rated floors can be tested successfully according to ASTM E1966 or UL 2079.

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The committee reaffirms its previous position with regard to the subject introduced by this comment and the referenced proposal. The committee further notes that specific types of wall materials are not addressed and that no substantiation has been provided with regard to the 12 inch gap.

**NUMBER ELIGIBLE TO VOTE:** 22

**BALLOT RESULTS:** Affirmative: 21 Abstain: 1

**EXPLANATION OF ABSTENTION:** ROSENBAUM: Abstain due to the criteria in Section 3-4 of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process.

**RECOMMENDATION:** Revise as follows:

8.11 Smoke Barriers.

8.11.1 Smoke barriers shall be constructed to limit the combined passage of smoke through opening protective, smoke dampers, joints, and through- penetrations at any floor level to not more than 0.75 cfm per square foot of total wall area, measured at a pressure of 0.1 in. of water (25 Pa). The total wall surface area shall be measured from outside wall to outside wall and from floor slab to floor or roof deck above and to enclosed spaces. The combined total smoke leakage rate through a smoke barrier can be calculated as follows:

\[
\text{Average Leakage Rate per Square Foot} = \frac{\sum_{i=1}^{n} (R_i \times L_i \times 0.58)}{\sum_{i=1}^{n} A_i} 
\]

Where:

- \( R \) represents the leakage rate of the item, cfm per ft² (or cfm per lineal ft for joints)
- \( L \) represents the length of the joint, ft
- \( A \) represents the total number of individual items, joints, etc.

**SUBSTANTIATION:** The language in NFPA 5000 (and NFPA 101) used to quantify smoke barrier performance varies widely. Different section refer to terminology such as “retard”, “resist”, “restrict”, “limit”, and “prevent” all appear within the code in connection with impeding (or apparently eliminating) the leakage of smoke through a barrier. This can be better quantified by introducing a total smoke leakage requirement specifically for opening protective, smoke dampers, joints, and penetrations in smoke barriers, and provides the methodology for calculation. Smoke Barriers were created in the code to be used in situations where the movement of smoke needs to be impeded. The code already recognizes that it is unrealistic to believe that a smoke barrier can be both functional in a building (with openings, services, etc), and prevent the movement of 100 percent of the smoke in a fire incident, by stipulating requirements for leakage rated doors. What is still lacking is identifying a performance level (or “tolerance”) that is realistic and achievable for the entire Smoke Barrier. Currently, the Code has no guidance or quantitative performance requirements on what maximum total leakage is acceptable.

At the last BLD-FIR TC Meeting in December, the committee formulated a proposal for a leakage requirement for NFPA 101 which was similar in intent to Log #504 and Log #506. The proposal was developed based on the report of a Task Group. One component of the TC recommendation was to develop language that would limit the cumulative leakage of smoke through a smoke barrier through identifiable and measurable components to not more 0.75 cfm per square foot of total wall area. NFPA 5000 currently includes requirements for doors in corridors and smoke barriers to be tested in accordance with a nationally recognized UL Standard (UL 1784) for the quantitative measurement of air leakage rates through door assemblies under prescribed conditions. This proposed Code change would add quantitative and enforceable requirements for the performance of Smoke Barriers. In order to evaluate the effectiveness of a smoke barrier, it is necessary to conduct a summation of the leakage contribution of all installed opening protective, smoke dampers, joints, and through-penetrations in the barrier. This can be accomplished using the equation proposed above. This, in turn, allows the designer to compare the actual measured leakage against the maximum allowable leakage rate through the entire smoke barrier.

The Code has effectively already established this level by identifying the required number of openings for exits and exit access, and limiting the aggregate width of openings at any floor level in a fire Barrier to 25 percent of the length of the wall. Based on this maximum limit, the combined passage of smoke through opening protective, smoke dampers, joints, and through-penetrations can be calculated as 0.75 cfm per square foot of total wall area, measured at a pressure of 0.1 in. of water (25 Pa).

The leakage rates for the four elements mentioned are already tested for and published in the fire-resistance test listings for those products (e.g., in the UL directory). Unfortunately, the tests are conducted at slightly different pressures, mainly for reasons of convenience in performing the tests. Fortunately, the leakage rates at the reported test pressures other than 0.1 in water column can be easily converted to a leakage rate at the specified pressure of 0.1 in. of water, as the flow of air or smoke through leaks (i.e. an orifice) is accepted to be roughly proportional to the square root of the pressure (ref: SFPE Handbook of Fire Protection Engineering, 1st edition, p 3-148) This can be expressed in the following equation:

\[
(P_1 \times R_1)^{0.5} = P_2 \times R_2
\]

Based on this we can convert leakage rates obtained at different pressures to a base value of 0.1 in. of water pressure. As an example, 3 cfm/ft² at 0.3 inches of water.

Listed smoke control doors have a maximum allowable leakage rate of 3 cfm/ft² at a pressure of 0.1 in. water column (1000 Pa). Listed smoke control dampers (Class II) have a maximum allowable leakage rate of 10 cfm/ft² at a pressure of 1.0 water column (250 Pa), or 20 cfm/ft² at a pressure of 4 in. water column (1000 Pa). In order to convert leakage rates at 1.0 of water column to a leakage rate at a pressure of 0.1 in water column, the leakage value needs to be multiplied by 0.32 per the conversion equation above. Similarly, to convert leakage rates at 4.0 in. of water column to 0.1 in., the leakage value should be multiplied by 0.16. Listed fire resistant joints and through-penetrations are tested for leakage rates at a pressure of 0.3 in. of water column. Consequently, the leakage rates reported for these systems need to be multiplied by 0.58 in order to convert these to a comparable basis using 0.1 in. of water column.
The required Leakage rate information for smoke control dampers, leakage rated doors, joints, and penetrations are readily available. For example, with joints and penetrations, the UL and OPL Directories identify these ratings as "L" ratings, and contains literally hundreds of penetration and joint designs which have already been tested and assigned an "L" rating. There is no additional effort or knowledge required to install these systems over that needed to install the basic through penetration systems for fire-resistance. Similarly, listed smoke-leakage rated doors and dampers are identified in these directories.

COMMITTEE MEETING ACTION: Accept in Principle
Accept the submitter’s proposed language with the following revisions:

8.11.1.1 Smoke barriers shall be constructed designed to limit the combined passage of smoke through opening protective, smoke dampers, joints, and through-penetrations at any floor level to not more than 0.75 cfm per square foot of total wall area. This requirement is not intended to be a performance criterion. To calculate the total allowable leakage for the entire wall, deduct the total permitted leakage from opening protective, smoke dampers, joints, and through-penetrations, and determine an excess permissible leakage. Calculating the excess permissible leakage back at the established pressure differential yields a feasible method that can be applied to illegal penetrations, incomplete sealing of joints, omitted smoke stopping, partially functioning smoke dampers, or partially open doors.

A sample calculation for a 50 ft x 8 ft wall with two doors, two large penetrations of 2 ft² that would be permissible. It does not appear that the submitter anticipated this unintended consequence.

KLEIN: Comment Numbers 5000-294 and 5000-295: Please register my vote as negative on this code proposal. Code Comment 5000-294 is on ROP Code Proposal 5000-479 that revised Sections 8.11.7.2, 8.11.7.3 & 8.11.7.4 via ROP Code Proposal 5000-478. Code Comment 5000-295 is on ROP Code Proposal 5000-473 that revised Sections 8.11.5.2 & 8.11.5.3. These two Code Comments are revising a section of the Code (8.11.1.1) that was not part of the original ROP Code Proposals. Therefore, these two Code Comments on Section 8.11.5.2 are new business introduced during the ROC stage, which is not permitted. The TCC should reject these two Code Comments represent the new business introduced during the ROC stage. Regardless of these two Code Comments being new business, the changes proposed are not justified based on fire data or field experience with the existing code requirements. These Code Comments are making the smoke barrier assembly’s leakage rate a “design” requirement. If one is using training, and construction materials work with the calculation method used. The user needs to verify the calculation method used.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 13 Negative: 9
EXPLANATION OF NEGATIVE:
DEVLIN: I vote negative on this proposal. The proposal limits smoke leakage through smoke barriers to not more than 0.75 cfm per sf of total wall area. This performance criterion is arbitrary and unenforceable. By definition, a smoke barrier is designed and constructed to restrict the movement of smoke. The intent of requiring a smoke barrier is to maintain a tenable condition on the non-fire side of the smoke barrier. While imposing performance criterion relative to smoke leakage in the fire barrier as a means of achieving tenability is inadequate now. It also creates potential for designers to argue against the use of various listed components such as door and window assemblies and through-penetration firestop materials. If these required components are not installed properly, the integrity of the barrier is compromised. Changing the requirements to include additional measurements unenforceable.

There is no technical justification for the safety significance of 0.75 cfm per square foot leakage at 0.1 in. of water. Establishing requirements for allowable leakage for protected openings in walls while ignoring leakage through the walls themselves, the floors, the ceilings, and any floor or ceiling openings is unreasonable and ridiculous.

KAPALCZYNSKI: While leakage rates may have been quantified for opening protective, smoke dampers, joints, and through-penetrations, the presumed leakage through solid wall materials has been assumed to be effectively zero. This new requirement now makes the solid wall material a component with a potentially permissible leakage. An intact solid wall will retain its zero leakage rate, but a wall with a hole may leak enough to require repair.

Presently, an unplanned hole in a smoke barrier wall, such as one created by a large mallet to pass a small wire, must be ordered repaired as a violation of the current code. This requirement is not before the committee. The committee notes that the annex material is intended to serve as a design requirement and not as a field test document. The committee agrees that criteria regarding the leakage of smoke through smoke barriers should be established. The criteria documented is intended to serve as a design requirement and not as a field test document. The committee notes that the annex material is intended to serve as one example of a calculation method in estimating the flow through an orifice in the smoke barrier. The committee does not necessarily agree with the 3rd and 4th paragraphs of the submitter’s substantiation and further notes that the estimated flow through an orifice in the smoke barrier can vary considerably based upon the calculation method used. The user needs to verify the calculation method used.

There are no technical justifications for the safety significance of 0.75 cfm per square foot leakage at 0.1 in. of water. Establishing requirements for allowable leakage for protected openings in walls while ignoring leakage through the walls themselves, the floors, the ceilings, and any floor or ceiling openings is unreasonable and ridiculous.
in the field implies the listing and installation of the components is currently inadequate. It also creates potential for designers to argue against the use of such listed components on a broad scale. I believe the best use of this part of an analysis is permitted in Chapter 5, not mandated in text in Chapter 8.

5000-295 Log #354 BLD-FIR

FINAL ACTION: Reject (8.11)

TCC Action: The Technical Correlating Committee (TCC) notes that this comment did not receive the necessary 2/3 agreement to confirm the committee action of accept in principle, thus the final action is REJECT. NOTE: Since the ballot on this Comment did not confirm the Committee Action, the comment is being rejected.


COMMENT ON PROPOSAL NO: 5000-473

RECOMMENDATION: Revise as follows:

8.11 Smoke Barriers:

8.11.1 Smoke barriers shall be constructed to limit the combined passage of smoke through opening protective, smoke dampers, joints, and through-penetrations at any floor level to not more than 0.75 cfm per square foot of total wall area, measured at a pressure of 0.1 in. of water (25 Pa). The total wall surface area shall be measured from outside wall to outside wall and from floor to floor or roof dikes above, including continuity through concealed spaces. The combined total smoke leakage rate through a smoke barrier can be calculated as follows:

Average Leakage Rate per Square Foot = \[ \left( \sum n \left( R \text{ joints} \times L \text{ joints} \times 0.58 \right) \right) \div A_{\text{Tot Wall Surface Area}} \]

Where:
- \( R \) represents the leakage rate of the item, cfm per ft\(^2\) (or cfm per lineal ft for joints)
- \( A \) represents the cross-sectional area of the individual item as identified, ft\(^2\)
- \( L \) represents the length of the joint, ft
- \( n \) represents the number of total individual doors, dampers, penetrations or joints

SUBSTANTIATION: The language in NFPA 5000 (and NFPA 101) used to quantify smoke barrier performance varies widely. Different section refer to terminology such as "retard", "resist", "restrict", "limit", and "prevent" all appear within the code in connection with impeding (or apparently eliminating) the leakage of smoke through a barrier. This can be better quantified by introducing a total smoke leakage requirement specifically for opening protective, smoke dampers, joints, and penetrations in smoke barriers, and provides the methodology for calculation. Smoke Barriers were created in the code to be used in situations where the movement of smoke needs to be impeded. The code already recognizes that it is unrealistic to believe that a smoke barrier be used both functional in a building (with ordinary services, etc), and prevent the movement of 100 percent of the smoke in a fire incident, by stipulating requirements for leakage rated doors. What is still lacking is identifying a performance level (or “tolerance”) that is realistic and achievable for the entire Smoke Barrier. Currently, the Code has no guidance or quantitative performance requirements on what maximum total leakage is acceptable.

At the last BLD-FFC TC Meeting in December, the committee formulated a draft Committee proposal for NFPA 101 which was similar in intent to Log #504 and Log #506. The proposal was developed based on the report of a Task Group. One component of the TC recommendation was to develop language that would limit the cumulative leakage of smoke through a smoke barrier through identifiable and measurable components to not more 0.75 cfm per square foot of total wall area, measured at a pressure of 0.1 in. of water (25 Pa). NFPA 5000 currently includes requirements for doors in corridors and smoke barriers to be tested in accordance with UL Standard (UL 1784) for the quantitative measurement of air leakage rates through door assemblies under prescribed conditions. This proposed Code change would add quantitative and enforceable requirements for the performance of Smoke Barriers. In order to evaluate the effectiveness of a smoke barrier, it is necessary to conduct a summation of the leakage contribution of all installed opening protective, smoke dampers, joints, and through-penetrations in the barrier. This can be accomplished using the equation proposed above. This, in turn, allows the designer to compare the actual measured leakage against the maximum allowable leakage rate through the entire smoke barrier.

The Code has not yet established this level by identifying the required number of openings for exit and exit access, and limiting the aggregate width of openings at any floor level in a fire Barrier to 25 percent of the length of the wall. Based on this maximum limit, the combined passage of smoke through opening protective, smoke dampers joints, and through-penetrations can be calculated as 0.75 cfm per square foot of total wall area, measured at a pressure of 0.1 in. of water (25 Pa).

The leakage rates for the four elements mentioned are already tested for and published in the fire-resistance test listings for those products (e.g., in the UL directory). Unfortunately, the tests are conducted at slightly different pressures, mainly for reasons of convenience in performing the tests. Fortunately, the leakage rates at the reported test pressures other than 0.1 in. water column can be easily converted to a leakage rate at the specified pressure of 0.1 in. of water, as the flow of air or smoke through leaks (i.e., an orifice) is considered to be roughly proportionally to the square root of the pressure (ref: SFPE Handbook of Fire Protection Engineering. 1st edition, p. 3-148) This can be expressed in the following equation:

\[ (P_2/P_1)^{0.50} \times R_1 = R_2 \]

Based on this we can convert leakage rates obtained at different pressures to a base value of 0.1 in. of water pressure. As an example, 3 cfm/ft\(^2\) at 0.3 inches of water.

Listed smoke control doors have a maximum allowable leakage rate of 3 cfm/ft\(^2\) at a pressure of 1.0 in. water column (1000 Pa). Listed smoke control dampers (Class II) have a maximum allowable leakage rate of 10 cfm/ft\(^2\) at a pressure of 1.0 in water column (250 Pa), or 20 cfm/ft\(^2\) at a pressure of 4 in. water column (1000 Pa). In order to convert leakage rates at 0.1 in of water column to a leakage rate at a pressure of 0.1 in water column, the leakage value needs to be multiplied by 0.32 per the conversion equation above. Similar, to convert leakage rates at a pressure of 0.3 in. water column, consequently, the leakage rates reported for these systems need to be multiplied by 0.58 in order to convert these to a comparable basis using 0.1 in. of water column.

The required Leakage rate information for smoke control dampers, leakage rated doors, joints, and penetrations are readily available. For example, with Joints and Penetrations, the UL and OPL Directories identify these ratings as “L” ratings, and contains literally hundreds of penetration and joint designs which have already been tested and assigned an “L” rating. There is no additional effort or knowledge required to install these systems over that needed to install the basic penetration systems for fire-resistance. Similarly, listed smoke-leakage rated doors and dampers are identified in these directories.

COMMITTEE MEETING ACTION: Accept in Principle

See committee action and statement on Comment 5000-294.

COMMITTEE STATEMENT: See committee action and statement on Comment 5000-294.

BALLOT RESULTS: Affirmative: 13 Negative: 9

EXPLANATION OF NEGATIVE:

DEVLIN: I vote negative on this proposal. The proposal limits smoke leakage through smoke barriers to not more than 0.75 cfm per sf of total wall area. The new performance criterion is relatively low and unenforceable. By definition a smoke barrier is designed and constructed to restrict the movement of smoke through the barrier. The intent of requiring a smoke barrier is to maintain a tenable condition on the non-fire side of the smoke barrier. While imposing performance relative to smoke leakage in the fire barrier as a means of achieving tenability may be a move in the right direction, smoke leakage through the wall is only a small piece of the big puzzle. Also, there are many other building elements/features that affect room/space tenability including the volume of the room/space. The submitter provides no data that indicates a problem/weakness with the current construction means and methods of fire barriers in their ability to prevent the leakage of smoke. The intent of smoke barrier is to restrict the movement of smoke to prevent the formation of tenability and hence the performance criterion is difficult to inspect and unnecessarily costly to field test.

GERDES: The need for the criteria has not been established. Inspection and enforcement is impossible. Mr. Holmes’ comment during ROP is on target.

KAPALCZYNSKI: While leakage rates may have been quantified for opening protective, smoke dampers, joints, and through-penetrations, the submission states, “The committee agrees that criteria regarding the leakage of smoke through smoke barriers should be established.” However, this proposed change does not accomplish what is stated.

The allowable leakage requirements are only applied to the systems or devices providing protection of openings in smoke barriers and not to the smoke barrier itself. Smoke barriers are used to enclose smoke compartments on all sides, including the top and bottom. (See definitions 3.3.45.2 and 3.3.86.2.) The proposed provisions in 8.11 are limited to walls, ignoring the potential for smoke leakage through floors, ceilings, and other barrier penetrations. Other leakage paths might be much more significant than the limited scope of 8.11.1.1. as proposed.

The proposed 8.11.1.1 establishes a higher restriction on allowable smoke leakage for the protection of openings than for the smoke barrier itself. There are restrictions on the amount of leakage of smoke that can pass through a smoke barrier wall, smoke barrier floor, or smoke barrier ceiling.

The proposed 8.11.1.1 establishes a restriction on the amount of leakage through wall openings that will ignore the allowable smoke leakage through floor openings, including, but not limited to unprotected convenience openings.

There is no technical justification for the safety significance of 0.75 cfm per square foot leakage at 0.1 in. of water.

Establishing requirements for allowable leakage for protected openings in walls while ignoring leakage through the walls themselves, the floors, the ceilings, and any floor or ceiling openings is unreasonable and ridiculous.
presumed leakage through solid wall materials has been assumed to be effectively zero. This new requirement now makes the solid wall material a component with a potentially permissible leakage. An intact solid wall will retain its zero leakage rate, but a wall with a hole may not leak enough to require repair.

Presently, an unplanned hole in a smoke barrier wall, such as one created by a large mallet to pass a small wire, must be ordered repaired as a violation of the integrity of the wall. With this new requirement, it is possible to calculate the total allowable leakage for the entire wall, deduct the total permissible leakage from opening protectives, smoke dampers, joints, and through-penetration firestop materials. Therefore, these two Code Comments on Section 8.11.5.2 are new business introduced during the ROC stage, which is not permitted. The TCC should reject these two Code Comments because they represent new business introduced during the ROC stage.

Regardless of these two Code Comments being new business, the change proposed is not justified based on the data or field experience with the existing code requirements. These Code Comments are making the smoke barrier assembly’s leakage rate a “design” requirement. If one is using traditional construction materials in accordance with their listings, the added expense of such leakage “design” calculations is costly to the user with no added fire protection life safety benefit. One of the listed components is installed per their listings. There was no fire data submitted with this code proposal that shows that the existing code provisions for smoke barriers are not adequate or not working in the field. In fact, if one reviews any NFPA fire data, I would believe it would be hard to justify that people are being injured or killed in buildings with smoke barriers. This code proposal only adds costs onto a building design with no reasonable life safety return.

MCCORMICK: I am voting negative on this committee action because this change establishes quantitative criteria for smoke leakage through smoke barriers of 0.75 cfm per sq ft of total wall area. The proposal will result in requiring an unnecessary level of resistance to the passage of smoke. No data has been submitted that indicates that the current performance-based provisions of the Code have failed to perform as required in the field. In addition, it will be difficult to field verify and will result in a significant increase in construction and supervision costs.

ROSENBAUM: This change establishes quantitative criteria for smoke leakage through smoke barriers of 0.75 cfm per sq ft of total wall area. Sufficient rationale that supports 0.75 cfm on an engineering basis has not been provided.

SCHNEIDER: No data has been submitted to justify that a change in current requirements is necessary. Furthermore, the integrity of the barriers in question is required to be maintained by various listed components such as door and window assemblies and through-penetration firestop materials. If these required components are installed properly, the integrity of the barrier is provided; inspections for these components are relatively straightforward and already commonplace. Conflicts with the requirements to include additional measurements unenforceable in the field implies the listing and installation of the components is inadequate now. It also creates potential for designers to argue against the use of such listed components on a broad scale. I believe the best use for this is part of an analysis as permitted in Chapter 5, not mandated in text in Chapter 8.

WOMACK: Negative on this item. The Committee’s actions to modify the language from “smoke barriers shall be constructed” to “smoke barrier shall be designed” creates enforcement difficulties. No data has been submitted to justify that a change in requirements is necessary. Furthermore, the integrity of the barriers in question is required to be maintained by various listed components such as door and window assemblies and through-penetration firestop materials. If these required components are installed properly, the integrity of the barrier is provide; inspections for these components are relatively straightforward and already commonplace. Conflicts with the requirements to include additional measurements unenforceable in the field implies the listing and installation of the components is inadequate now. It also creates potential for designers to argue against the use of such listed components on a broad scale. I believe the best use of this part of an analysis is permitted in Chapter 5, not mandated in text in Chapter 8.

5000-295a Log #CC551 BLD-END

TCC Action: The Technical Correlating Committee (TCC) notes that the proposed action on 5000-294 failed to achieve the 2/3 margin, thus the action on this comment by BLD-END stands.

SUBMITTER: Technical Committee on Educational and Day-Care Occupancies

COMMENT ON PROPOSAL NO: 5000-479

RECOMMENDATION: Reject Comment 5000-294 so as NOT to add maximum combined passage of smoke criteria for smoke barriers (0.75 cfm per sq ft of smoke barrier area, at 0.1 in. water column pressure).

SUBSTANTIATION: Inadequate substantiation for so significant a change. Even if it could be justified to limit combined smoke leakage, the values chosen are excessive. The 0.1 in. water column pressure criterion is unsubstantiated, especially where automatic sprinkler protection is provided.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 12

BALLOT RESULTS: Affirmative: 8

BALLOT NOT RETURNED: 4

5000-295b Log #CC505 BLD-AXM

TCC Action: The Technical Correlating Committee (TCC) notes that the proposed action on 5000-294 failed to achieve the 2/3 margin, thus the action on this comment by BLD-AXM stands.

SUBMITTER: Technical Committee on Assembly Occupancies and Membrane Structures

COMMENT ON PROPOSAL NO: 5000-479

RECOMMENDATION: Reject Comment 5000-294 so as NOT to add maximum combined passage of smoke criteria for smoke barriers (0.75 cfm per sq ft of smoke barrier area, at 0.1 in. water column pressure).

SUBSTANTIATION: Inadequate substantiation for so significant a change. The leakage values chosen are too conservative. The 0.1 in. water column pressure criterion is unsubstantiated, especially where automatic sprinkler protection is provided.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 24

BALLOT NOT RETURNED: 6

5000-295c Log #CC402 BLD-HEA

TCC Action: The Technical Correlating Committee (TCC) notes that the proposed action on 5000-294 failed to achieve the 2/3 margin, thus the action on this comment by BLD-HEA stands.

SUBMITTER: Technical Committee on Health Care Occupancies

COMMENT ON PROPOSAL NO: 5000-479

RECOMMENDATION: Reject Comment 5000-294 so as NOT to add maximum combined passage of smoke criteria for smoke barriers (0.75 cfm per sq ft of smoke barrier area, at 0.1 in. water column pressure).

SUBSTANTIATION: Inadequate substantiation for so significant a change. The leakage values chosen are too conservative. The 0.1 in. water column pressure criterion is unsubstantiated, especially where automatic sprinkler protection is provided.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7

5000-296 Log #349 BLD-FIR

TCC Action: The Technical Correlating Committee (TCC) notes that the proposed action on 5000-294 failed to achieve the 2/3 margin, thus the action on this comment by BLD-FIR stands.


COMMENT ON PROPOSAL NO: 5000-467

RECOMMENDATION: Add new text to read as follows: 8.11.2 Smoke Barriers shall be effectively and permanently identified with signs of stenciling in a manner acceptable to the authority having jurisdiction. Such identification shall be above any decorative ceiling or in concealed spaces, and shall include the wording: FIRE AND SMOKE BARRIER: PROTECT ALL OPENINGS

SUBSTANTIATION: Building modifications, installed equipment, inspections, change orders and construction projects can all generate a need to identify whether a particular assembly is required to act as a barrier to smoke.
or fire. The addition of the proposed marking during the construction phase of a building is of great benefit to fire officials who conduct inspections over the course of the buildings life cycle and occupancy and will facilitate ease of inspection during building renovation. Such identification marking would also serve to alert trades people working within the building that, as penetrations are being made, the openings require additional consideration or protection.

The 1999 Standard Building Code contained requirements for the marking and identification of horizontal and vertical barriers required to either to have a fire-resistance rating or be effective barriers to the movement of smoke within a building. OSHA also has requirements for marking and labeling of safety features in buildings.

This also addresses the committee’s comment that the proposal, as previously submitted, may have lacked the mechanisms for effective application and enforcement.

COMMITTEE MEETING ACTION: Rejected

COMMITTEE STATEMENT: The committee reaffirms its previous position as documented in Proposal 5000-467 in the ROP, and further notes that the recommendation lacks a practical means of application and enforcement. No specific details pertaining to marking have been submitted.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-297 Log #97 BLD-FIR FINAL ACTION: Accept in Principle (8.11.4.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Consider the options suggested by SAF-HEA, so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See committee action and statement on Comment 5000-306.

COMMITTEE STATEMENT: See committee action and statement on Comment 5000-306.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-298 Log #97a BLD-AXM FINAL ACTION: Accept in Principle (8.11.4.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Review the proposal and make any necessary changes based upon the occupancy chapters for which they have responsibility.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

No further action by BLD-AXM.

COMMITTEE STATEMENT: The BLD-AXM committee supports the action on Proposal 5000-469.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, Pritchett, WERTHEIMER

5000-299 Log #97c BLD-END FINAL ACTION: Accept in Principle (8.11.4.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Review the proposal and make any necessary changes based upon the occupancy chapters for which they have responsibility.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

No further action needed by BLD-END.

COMMITTEE STATEMENT: The requirement for new smoke barrier doors to comply with NFPA 105 is justified where smoke barriers are required for educational and day-care occupancies.

NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

5000-300 Log #97c BLD-HEA FINAL ACTION: Accept in Principle (8.11.4.1)

TCC Action: The Technical Correlating Committee (TCC) notes that it permits the action on this comment to stand given the TCC is rejecting Comment 5000-306. The committee statement on Comment 5000-306 is incorrect in that exceptions in the occupancy chapters need correlative references in the core chapters so as not to create a conflict.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Review the proposal and make any necessary changes based upon the occupancy chapters for which they have responsibility.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Revise 8.11.4.1 and 26.3.3.17 as follows: 8.11.4.1 Doors in smoke barriers, in other than health care occupancies and detention and correctional occupancies, shall be installed in accordance with NFPA 105, Standard for the Installation of Smoke Door Assemblies.

COMMITTEE STATEMENT: Detention and correctional occupancies need to avoid the use of swinging doors as such doors can be used as weapons by the residents. Rather, sliding doors are used. It is not practical to install and maintain S-rated (smoke-leakage rated) sliding doors. The gasketing systems can be removed by residents and used as weapons. The requirement for self-closers or automatic closers creates operational difficulties in detention and correctional occupancies where security is paramount. The current smoke barrier requirements adequately serve both the life safety and the security needs. See also Comment 5000-480c.

NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 13
BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-302 Log #97c BLD-RES FINAL ACTION: Accept in Principle (8.11.4.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Review the proposal and make any necessary changes based upon the occupancy chapters for which they have responsibility.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

No action.

COMMITTEE STATEMENT: Residential occupancies, as regulated by NFPA 5000, do not require smoke barriers; therefore, no action is necessary.

NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 3 BONISCH, CONVERVY, ONEISOM

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-303 Log #97f BLD-BCF FINAL ACTION: Accept in Principle (8.11.4.1)

TCC Action: The Technical Correlating Committee (TCC) notes that it permits the action on this comment to stand given the TCC is rejecting Comment 5000-306. The committee statement on Comment 5000-306 is incorrect in that exceptions in the occupancy chapters need correlative references in the core chapters so as not to create a conflict.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Review the proposal and make any necessary changes based upon the occupancy chapters for which they have responsibility.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Revise 8.11.4.1 and 26.3.3.17 as follows: 8.11.4.1 Doors in smoke barriers, in other than health care occupancies and board and care facilities, shall be installed in accordance with NFPA 105, Standard for the Installation of Smoke Door Assemblies.
REPORT ON COMMENTS — Copyright, NFPA

26.3.3.7.17* Doors in smoke barriers shall comply with 8.11.4, other than 8.11.4.1, and shall be self-closing or automatic closing in accordance with 11.2.1.8.

COMMITTEE STATEMENT: No data has been provided to substantiate the need for "smoke doors" meeting NFPA 105 in smoke barriers in board and care facilities. The committee action exempts such doors from the requirement to meet NFPA 105, consistent with the action taken by the TC on Health Care Occupancies.

NUMBER ELIGIBLE TO VOTE: 13
BALLOT RESULTS: Affirmative: 12
BALLOT NOT RETURNED: 1

TCC Action: The Technical Correlating Committee (TCC) notes that it permits the action on this comment to stand given the TCC is rejecting Comment 5000-306. The committee statement on Comment 5000-306 is incorrect in that exceptions in the occupancy chapters need correlative references to the core chapters as noted in the core chapter(s). Comment 5000-306 is incorrect in that exceptions in the occupancy chapters need correlative references to the core chapters as noted in the core chapter(s).

SUBMITTER: Technical Committee on Health Care Occupancies
COMMENT ON PROPOSAL NO: 5000-469
RECOMMENDATION: Retain acceptance of ROP Proposal 5000-469 which reads as follows: 8.11.4.1 Doors in smoke barriers, in other than health care occupancies, shall be installed in accordance with NFPA 105, Standard for the Installation of Smoke Door Assemblies.

SUBSTANTIATION: As stated in the substantiation for ROP Proposal 5000-469:

Current 8.11.4.1 does not require compliance with NFPA 105 and, thus, does not require smoke barrier doors to be smoke leakage-rated doors. If an occupancy chapter makes the conscious decision to require smoke barrier doors to be smoke leakage rated, the occupancy chapter will mandate use of the provisions of 11.2.1.1.4, but until now such decision has been left to the occupancy chapters. The proposed revision by BLD-FIR, reported in Proposal 5000-468 (Log #536), takes the judgment call away from the occupancy chapter and adds a mandatory requirement for smoke leakage-rated doors in smoke barriers. The health care occupancies provisions for smoke barriers have not required the doors to be smoke leakage rated as a conscious decision of the BLD-HEA committee. The health care occupancies cross-corridor smoke barrier doors are not required to have latches as a practical necessity for effective day-to-day operations. The smoke leakage-rated door testing is required to be run on specimens arranged as the doors are intended to be installed in actual use [see NFPA 105, 4.2.4 “Specimens of door assemblies shall be tested as they are intended to be installed.”]. The health care occupancies cross-corridor doors without latches will not pass the required testing.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7

COMMITTEE MEETING ACTION: Reject
BALLOT NOT RETURNED: 2

No data has been provided to substantiate the need for "smoke doors" meeting NFPA 105 in smoke barriers in board and care facilities. The committee action exempts such doors from the requirement to meet NFPA 105, consistent with the action taken by the TC on Health Care Occupancies.

NUMBER ELIGIBLE TO VOTE: 13
BALLOT RESULTS: Affirmative: 12
BALLOT NOT RETURNED: 1

SUBMITTER: Wayne D. Holmes, HSB Professional Loss Control
COMMENT ON PROPOSAL NO: 5000-472
RECOMMENDATION: Reconsider and reject proposal.

SUBSTANTIATION: The proposal statement references UL 1479. Requiring listed systems (to UL 1479 or other standard) adds a requirement that has no safety significance and is not technically justified.

The current test “a system or material capable of limiting the transfer of smoke” is sufficient.

The listing standard (e.g., UL 1479) does not test for leakage under fire conditions and is therefore not applicable. Air leakage tests (up to 400°F) are not smoke leakage tests and are not tests of performance under fire conditions. Some sealing materials actually get tighter under elevated temperatures or fire conditions.

In a similar action for NFPA 101, Life Safety Code, the Committee Statement for 101-Log #232 references the statement for 101-Log #210 which states: “The Committee has not been presented with data indicating that all materials used to protect penetrations in smoke barriers need to be listed.” It is also true that the Committee has not been presented with data indicating that systems used to protect penetrations for cables, cable trays, pipes, tubes, vents, etc., need to be listed.

There is no technical justification or demonstrated safety significance for the leakage rates referenced in UL 1479 or any other listing standard. There is no technical justification or safety significance demonstrated for including these listing requirements in NFPA 5000.

The barriers themselves are not tested or listed for smoke tightness and may, in fact, be quite leaky. The proposed change in 5000-Log #279 would establish a higher standard of tightness for penetration seals than is required for the barrier. There is no technical justification for this unnecessary increase in requirements.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee reaffirms its previous action with regard to proposal 5000-472. The committee notes that the criteria of 400 degrees Fahrenheit is a relevant value in testing smoke doors with regard to NFPA 105, in testing smoke dampers in accordance with UL 555, in testing smoke dampers in accordance with UL 1784. The committee further believes that the proposed language of “a material capable of limiting the passage of smoke” provides an acceptable alternative for existing installations.
NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 21 Negative: 1

EXPLANATION OF NEGATIVE:

HOLMES: The Committee Statement on Proposal 5000-472 stated, "The Committee has not been presented with data indicating that all materials used to protect penetrations in smoke barriers need to be listed." Contrary to this statement, the Committee Action was to arbitrarily insert a requirement for listed systems to protect all penetrations.

The statement that the committee has not been presented with data that systems used to protect penetrations for cables, cable trays, pipes, tubes, vents, etc. need to be listed is correct. There is no justification to insert a requirement that systems be listed.

SUBMITTER: Wayne D. Holmes, HSB Professional Loss Control

RECOMMENDATION: Reconsider and reject proposal.

SUBSTANTIATION: Requiring listed systems (to UL 2079 or other standard) adds a requirement that has no safety significance and is not technically justified.

The current text "a system or material capable of limiting the transfer of smoke" is sufficient.

The listing standard (e.g., UL 2079, as referenced in the proposal substantiation) does not test for leakage under fire conditions and is therefore not applicable. Air leakage tests (up to 400°F) are not smoke leakage tests and are not tests of performance under fire conditions. Some sealing materials actually get tighter under elevated temperatures or fire conditions.

The Committee Statement is "The Committee has not been presented with any data indicating that all materials used to protect joints in smoke barriers need to be listed." It is also true that the Committee has not been presented with any data indicating that joint systems need to be listed.

There is no technical justification or demonstrated safety significance for the leakage rates referenced in UL 2079 or other listing standards. There is no technical justification or safety significance demonstrated for including these requirements in NFPA 5000. The barriers themselves are not tested or listed for smoke tightness and may, in fact, be quite leaky. The proposed change in 5000-Log #281 would establish a higher standard of tightness for joints than is required for the barrier. There is no technical justification for this unnecessary increase in requirements.

COMMITTEE MEETING ACTION: Reject

SUBSTANTIATION: The committee supports its previous action and substantiation on proposal 5000-478. By taking this action, the committee reaffirms its action to Accept-in-Principal on Proposal 5000-478.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 21 Negative: 1

COMMITTEE MEETING ACTION: Accept in Principle

EXPLANATION OF ABSTENTION:

Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

RECOMMENDATION: Refer revision to BSF.

Unenclosed vertical openings permitted by Section 8.12.4 in buildings with complete automatic sprinkler systems shall be protected with draft stops as required by NFPA 13 Section 5.13.4.

SUBSTANTIATION: Convenience openings when retrofitted in existing buildings require this statement to alert designers that the openings may not be appropriate due to ceiling heights that may be too low to provide draft curtains and still maintain headeroom. Sprinkler contractors, who would be aware of this requirement, may not be involved in these openings are created.

COMMITTEE MEETING ACTION: Accept

SUBSTANTIATION: The committee reaffirms its previous action and statement with regard to Proposal 5000-484. NFPA 13 adequately addresses the issue.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 21 Negative: 1

COMMITTEE MEETING ACTION: Reject

EXPLANATION OF ABSTENTION:

KAPALCZYNSKI: By not alerting the user of this document to a related requirement in NFPA 13, the typical scenario finds a newly installed convenience opening (per NFPA 5000 Section 8.12.4) that will infringe on the minimum headroom requirements on the floor below. The sprinkler installer is forced to reduce headroom by 18 inches, violating NFPA 5000 Section 11.1.5 where the floor-to-floor height is insufficient. To correct this condition, neither the NFPA 13 requirement (8.14.4) must be ignored (illegal) or the vertical opening must be removed (an expensive correction that could have been prevented by a simple code reference).

This proposal is not questioning the NFPA 13 requirement. This is a rare instance where a system installation standard requires a fire protection feature (draft curtains). It is appropriate for this chapter to acknowledge a coexisting requirement in the interest of alerting the user of this document of its existence rather than to foster its omission.


RECOMMENDATION: Accept this proposal in principle and modify section 8.16.1.2 as follows: 8.16.1.2 Any material that is subject to an increase in flame spread rating or smoke developed index beyond the limits herein established through the effects of
of age, moisture, or other atmospheric conditions shall not be permitted, unless such material complies with 8.16.1.2(A) or 8.16.1.2(B).

(A) Duct and pipe insulation, coverings and linings, contained in plenums, for buildings of all types of construction shall comply with the requirements of Section 7.2.3.2.15.

(B) Foam plastic insulation, other than duct and pipe insulation, coverings and linings, contained in plenums shall comply with Chapter 48.

SUBSTANTIATION: (1) As explained by Joseph Holland in his negative proposal 5000-307, the scope of NFPA 90A does not include all buildings. Thus, the language change permits to make it clear that buildings of all types of construction are covered, while the reference to NFPA 90A would exclude buildings of some types.

(2) NFPA 90A is much less widely distributed and adopted than NFPA 5000; the use of the proposed language will require all users of Chapter 8 of NFPA 5000 to have a version of NFPA 90A also available. Moreover, it will require the adoption of NFPA 90A as a reference standard (NFPA 90A is not a code!).

(3) As explained in the substantiation for my proposal 5000-319 and to proposal 5000-489, the ASTM committee on fire standards, ASTM E05, has now issued ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics. This is the first time that a standard practice was created with instructions for how to test pipe or duct insulation systems using ASTM E 84 (or NFPA 255). It is now important that the building code adopt the new practice to create consistency and maintain appropriate fire safety. This will prevent manufacturers from testing systems as individual materials rather than as a composite. Experience in fire safety indicates that testing of systems representative of what is being used in actual practice is likely to lead to more accurate information on the fire performance of the material proposed for use.

Unfortunately, ASTM E 84 and NFPA 255 are silent on specimen preparation and mounting for a number of materials, including pipe and duct insulation systems. The reference to ASTM E 2231 will now make testing details clear, as the ASTM E 2231 standard practice describes specimen preparation and mounting methods in detail for all types of systems. The change to the section on supplementary materials will also make NFPA 5000 consistent with the changes accepted by the International Mechanical Code. This change has been proposed and accepted also by the NFPA 90A committee in its corresponding section.

Thus, references to NFPA 90A in Chapter 50 of NFPA 5000 are very appropriate, as are references that address fire and smoke dampers.

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 22

5000-314 Log #302 BLD-FIR

FINAL ACTION: Reject

(8.16.7)


COMMENT ON PROPOSAL NO: 5000-491

RECOMMENDATION: Accept this proposal in principle and modify section 8.16.7 as follows:

8.16.7 Insulation and Covering on Pipe and Tubing. Insulation and covering on pipe and tubing, not installed in plenums, shall have a flame spread index of not more than 25 and a smoke developed index of not more than 450.

Insulation and covering on pipe and tubing installed in plenums for all types of building construction shall comply with the requirements contained in 7.2.3.

SUBSTANTIATION: (1) As explained by Joseph Holland in his negative proposal 5000-307, the scope of NFPA 90A does not include all buildings. Thus, the proposed language change permits to make it clear that buildings of all types of construction are covered, while the reference to NFPA 90A would exclude buildings of some types.

(2) NFPA 90A is much less widely distributed and adopted than NFPA 5000; the use of the proposed language will require all users of Chapter 8 of NFPA 5000 to have a version of NFPA 90A also available. Moreover, it will require the adoption of NFPA 90A as a reference standard (NFPA 90A is not a code!).

(3) As explained in the substantiation for my proposal 5000-319 and to proposal 5000-489, the ASTM committee on fire standards, ASTM E05, has now issued ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics. This is the first time that a standard practice was created with instructions for how to test pipe or duct insulation systems using ASTM E 84 (or NFPA 255). It is now important that the building code adopt the new practice to create consistency and maintain appropriate fire safety. This will prevent manufacturers from testing systems as individual materials rather than as a composite. Experience in fire safety indicates that testing of systems representative of what is being used in actual practice is likely to lead to more accurate information on the fire performance of the material proposed for use.

Unfortunately, ASTM E 84 and NFPA 255 are silent on specimen preparation and mounting for a number of materials, including pipe and duct insulation systems. The reference to ASTM E 2231 will now make testing details clear, as the ASTM E 2231 standard practice describes specimen preparation and mounting methods in detail for all types of systems. The change to the section on supplementary materials will also make NFPA 5000 consistent with the changes accepted by the International Mechanical Code. This change has been proposed and accepted also by the NFPA 90A committee in its corresponding section.

Thus, references to NFPA 90A in Chapter 50 of NFPA 5000 are very appropriate, as are references that address fire and smoke dampers.

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 22

5000-315 Log #420 BLD-FUR

FINAL ACTION: Accept in Principle (10.1.1.3)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-494

RECOMMENDATION: Revise 10.1.1.3 to read as follows:

10.1.1.3 Wall pads and crash pads that cover 10 percent or more of the area of the wall or of the ceiling to which they are attached; paneling; and fixed or movable walls and partitions, applied structurally or decorative, acoustical correction, and shall not be exempt from tests simulating actual installation if they meet the requirements of Class A interior wall or ceiling finish when tested in accordance with 10.3.1 using inorganic reinforced fiber cement board as the substrate material.

SUBSTANTIATION: This comment rearranges the words to clarify what the 10 percent is applying to as requested by the TCC note for NFPA 101. It also corrects the grammatical error changing “to which it is attached” to “to which they are attached.”

COMMITTEE MEETING ACTION: Accept in Principle

See committee action and statement on Comment 5000-316.

COMMITTEE STATEMENT: See committee action and statement on Comment 5000-316.

NUMBER ELIGIBLE TO VOTE: 11

BALLOT RESULTS: Affirmative: 10 Abstain: 1

EXPLANATION OF ABSTENTION: HIRSCHLER: Abstention, because of potential for client interest.

5000-315a Log #CC801 BLD-FUR

FINAL ACTION: Accept (10.1.2)

SUBMITTER: Technical Committee on Furnishings and Contents

COMMENT ON PROPOSAL NO: 5000-493

RECOMMENDATION: Revise 10.1.2 to read as follows:

10.1.2 Materials applied, in total thickness of less than 1/28 in. (0.90 mm), directly to the surface of walls and ceilings shall not be considered interior finish and shall be exempt from tests simulating actual installation if they meet the requirements of Class A interior wall or ceiling finish when tested in accordance with 10.3.1 using inorganic reinforced fiber cement board as the substrate material.

SUBSTANTIATION: This comment was developed as a result of a public comment that was submitted to NFPA 101 on the same subject. See Comment 101-158.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 11

BALLOT RESULTS: Affirmative: 10 Abstain: 1

EXPLANATION OF ABSTENTION: HIRSCHLER: Abstention, because of potential for client interest.
COMMITTEE STATEMENT: Insulation or other purposes shall be considered interior finish if they cover 10% or more of the area of the wall or of the ceiling to which it is applied, and shall not be considered decorations or furnishings.

A.10.1.3 Such partitions include wash room water closet partitions. The 10% of the area is not intended to involve the thickness of the wall or of the partitions, paneling, wall pads or crash pads.

SUBSTANTIATION: This clarification is intended to resolve the concern expressed by the Technical Correlating Committee of the Life Safety Code, and to create consistency between the Life Safety Code and the Building Code.

COMMITTEE MEETING ACTION: Accept in Principle

1. Revise section 10.1.3 to read as follows:

10.3.1 Fixed or movable wall and partitions, paneling, wall pads and crash pads, applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered interior finish if they cover 10% of the area of the wall or of the ceiling to which it is applied, and shall not be considered decorations or furnishings.

2. Do not accept the submitter’s proposed revisions to A.10.1.3.

COMMITTEE STATEMENT: The committee is concerned that 10 percent of a large wall could result in a substantial amount of paneling, wall pad and crash pad material. In addition, even lesser amounts of these types of materials could produce a significant hazard depending upon where the materials are applied. The committee also notes that wall pads and crash pads are normally comprised of low density foams and not the high density foams that are applied. The committee is concerned that this clarification is intended to resolve the concern expressed by the Technical Correlating Committee of the Life Safety Code, and to create consistency between the Life Safety Code and the Building Code.

SUBSTANTIATION: See the above recommendation.

RECOMMENDATION: Review the action on this proposal.

COMMITTEE STATEMENT: See the above recommendation.

SUBSTANTIATION: See the above recommendation.

RECOMMENDATION: By taking this action the committee indicates its support of the acceptance of Proposal 5000-496.

NUMBER ELIGIBLE TO VOTE: 11

BALLOT RESULTS: Affirmative: 10 Abstain: 1

EXPLANATION OF ABSTENTION: HIRSCHLER: Abstention, because of potential for client interest.

(1) Flames shall not spread to the ceiling during the 40-kW exposure.

(2) During the 160-kW exposure, the following criteria shall be met:

(a) Flame shall not spread to the outer extremities of the sample on the 2440 mm x 3660 mm (96 in. x 144 in.) wall.

(b) Flashover shall not occur.

(3) The peak heat release rate throughout the test shall not exceed 800 kW.

(4) For new installations, the total smoke released throughout the test shall not exceed 1000 m³.

SUBSTANTIATION: An analysis of data from room corner tests shows that, in general, interior finish materials that do not flash over use where the room corner test tend to have peak heat release rates (Pk RHR) under 400 kW if they have a flame spread index (FSI) values under 25. See the Table that follows.

<table>
<thead>
<tr>
<th>FSI</th>
<th>ASTM E 84 Room Corner Test</th>
<th>Pk RHR (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>195</td>
<td>200</td>
</tr>
<tr>
<td>22</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>22</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>27</td>
<td>359</td>
<td>200</td>
</tr>
<tr>
<td>25</td>
<td>106</td>
<td>25</td>
</tr>
<tr>
<td>27</td>
<td>128</td>
<td>25</td>
</tr>
<tr>
<td>15</td>
<td>153</td>
<td>25</td>
</tr>
<tr>
<td>15</td>
<td>40</td>
<td>25</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>0</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>25</td>
<td>125</td>
<td>25</td>
</tr>
<tr>
<td>22</td>
<td>120</td>
<td>15</td>
</tr>
<tr>
<td>&lt; 25</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>&lt; 25</td>
<td>106</td>
<td>15</td>
</tr>
<tr>
<td>&lt; 25</td>
<td>930</td>
<td>25</td>
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<tr>
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<td>945</td>
<td>25</td>
</tr>
<tr>
<td>&lt; 25</td>
<td>1070</td>
<td>25</td>
</tr>
<tr>
<td>&lt; 25</td>
<td>1075</td>
<td>25</td>
</tr>
</tbody>
</table>

# The data in parentheses are maximum average ceiling temperatures. ASTM E 84 is a poor predictor when these materials (all Class A) caused flashover (at least in terms of average ceiling temperature) in the NFPA 265 screening test, as shown by the data.

* The data in parentheses are maximum average ceiling temperatures. ASTM E 84 is not a poor predictor when these materials (all Class A) caused peak heat release rates of less than 400 kW; low enough to be reasonably safe materials.

The following materials were tested in the much more severe ISO 9705 room corner test (where the ignition burner is at 100 kW for 10 min and then at 300 kW for a further 10 min):
(2) On the other hand, materials that release 600 kW or less have a Total Smoke Released of less than 1,000 m² shall be permitted to be used wherever a Class A classification in accordance with NFPA 255 or ASTM E 84 is required. I am well aware that NFPA 255 or ASTM E 84 is a much poorer test than NFPA 286, but I have been shown a significant amount of proprietary data where manufacturers found that their products could be made less expensive (and somewhat less fire safe) if they needed to simply meet the no flashover requirements from testing using NFPA 286 instead of testing to ASTM E 84 and getting a Class A, because less fire retardance was needed. In fact, it is rare for manufacturers to test their products using NFPA 286 if they just need a Class B or Class C in the ASTM E 84 tunnel, so that the real comparison is with Class A.

Thus, for this comment, I took a safer approach and recommend simply to lower the peak rate of heat release permitted for a material to pass NFPA 286 and be considered equivalent for a Class A material to ASTM E 84, from “no flashover” to 800 kW. The criterion was set at 800 kW to ensure materials that have already been tested are not unnecessarily penalized, since it is likely that most materials will be in the correct range.

With regard to the comments made by Dr. Clarke: (1) the present code uses peak rate of heat release as a criterion for pass/fail, with the criterion being flashover (namely 1,000 kW), and this comment recommends dropping that number to 800 kW. (2) if a material generates heat release exceeding 600 kW and does not even reach a Class B in the Steiner tunnel, then the need for the change is even greater than I believe it is. The data demonstrates that materials that yield over 400 kW when tested with NFPA 286 are worse in fire performance than materials that meet a Class A in the Steiner tunnel, and yet they are allowed to be considered equivalent to a Class A material. Therefore, it is critical to ensure that materials that release abundant heat in the NFPA 286 test (but just under 1,000 kW) should not be considered fully safe (which is what the code implicitly considers Class A materials).

With regard to the comments made by Mr. Talley, it is necessary to point out that neither the original proposal nor this comment require NFPA 286 testing: NFPA 286 testing is already a code requirement as an alternative to NFPA 255/ASTM E 84. The code proposal (and this comment) deal with the pass/fail criteria for NFPA 286 testing. Thus, the economic analysis made does not apply.

With regard to the comments by Mr. Fitch, this comment does not state that ASTM E 84/NFPA 255 is an adequate predictor of fire performance of interior finish; it is not. However, what is, hopefully, clear is that materials that do not reach high heat in the room corner test (even if they just miss flashing over the room) should not be considered fully safe (which is what the code implicitly considers Class A materials).

With regard to the comments by Mr. Lathrop, this comment modifies the proposal so that the single class “pass” with NFPA 286, while still eliminating the poorer performers.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 11

**BALLOT RESULTS:** Affirmative: 10 Abstain: 1

**EXPLANATION:**

HIRSCHLER: Abstention, because of potential for client interest.

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**TCC Action:** The Technical Correlating Committee (TCC) directs that the action be modified, editorially, to add the word “requirements” so the inserted phrase reads: “…interior wall finish requirements for its location or the...”

**SUBMITTER:** James K. Lathrop, Koffel Assoc., Inc.

**COMMENT ON PROPOSAL NO:** 5000-504

**RECOMMENDATION:** Revise text to read as follows:

10.5.2 Wall base: Interior floor tram material used at the junction of the wall and the floor to provide a functional or decorative border, and not exceed 3 in. (76 mm) in height, shall meet the interior wall finish for its location or the requirements for Class II interior finish... (all numbers changed)

**SUBSTANTIATION:** This comment makes two changes. First it clarifies that this is an “exception” and that traditional interior wall finish can be used. Second it allows the floor finish to go higher on the wall. There has been no indication to limit this to 6 in. In fact, this could probably be allowed up to 4 ft without any problems. Note that health care has allowed reductions in interior finish as high as 4 ft for many years with no problems.

**COMMITTEE MEETING ACTION:** Accept in Part

1. Accept the submitter’s recommendation to add the phrase “interior wall finish for its location or the”.

2. Do not accept the submitter’s recommendation to revise “6 inches” to read “1 ft.”

**COMMITTEE STATEMENT:** Insufficient technical justification has been provided supporting the submitter’s recommendation to increase the wall base height from 6 inches to 1 foot.

**NUMBER ELIGIBLE TO VOTE:** 11

**BALLOT RESULTS:** Affirmative: 11

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**NHBCC:**

5000-128 Log #102 BLD-IND

**FINAL ACTION:** Reject (11.1.6.3)

**COMMITTEE MEETING ACTION:** Accept in Principle

1. Accept BLC-MEA action on proposal 500-517 to revise section 11.1.6.3.1 to read as follows:

   11.1.6.3.1 Level

   11.1.6.3.1 Walking surfaces, other than as provided in 11.1.6.3.2, shall comply with the following:

   1. Walking surfaces shall be nominally level.
   2. The slope of a walking surface in the direction of travel shall not exceed 1 in 20 unless the ramp requirements of 11.2.5 are met.
   3. The slope perpendicular to the direction of travel shall not exceed 1 in 48.
   4. Vehicle ramps in parking structures, as permitted in 30.8.2.2.6, and not an accessible means of egress or other accessible element shall be exempt from the provisions of 11.1.6.3.1.

2. Add the following as new section 11.2.5.2, and renumber remaining sections of 11.2.5 and associated sections as follows:

   11.2.5 Ramps

   11.2.5.1 General. Every ramp used as a component in a means of egress shall conform to the general requirements of Section 11.1 and to the requirements of 11.2.5.

   11.2.5.2 Vehicle ramps in parking structures, as permitted in 30.8.2.2.6, and not an accessible means of egress or other accessible element shall be exempt from the provisions of 11.2.5.

   Add new language to Section 30.8.2.2.6.1(2) to read as follows:

   30.8.2.2.6.1 Ramps shall be permitted in accordance with any of the following conditions:

   1. Ramps complying with 11.2.5 and not subject to normal vehicular traffic where used as an exit.
   2. In a ramp-type open parking structure with open vehicle ramps not subject to closure, the ramp shall be permitted to serve in lieu of the second means of egress from floors above the level of exit discharge, provided that the ramp discharges directly outside at the street level. The open vehicle ramps shall be exempt from the provisions of Sections 11.1.6 and 11.2.5.
   3. For parking structures extending only one floor level below the level of exit discharge, a vehicle ramp leading directly to the outside shall be permitted to serve in lieu of the second means of egress, provided that no door or shutter is installed therein.

**COMMITTEE STATEMENT:** BLD-IND is in support of the action by BLD-MEA on proposal 500-517.
11.2.2.2.1 Standard Stairs

11.2.2.2.2 Dimensional Criteria.

Revise as follows:

Dimensional criteria for stairs, other than stairs for industrial stairways, should apply to NFPA 101 Life Safety Code since similar provisions exist within that document.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4

FINAL ACTION: Accept in Principle (11.2.x.2)

TCC Action: The Technical Correlating Committee (TCC) directs that the action of ACCEPT IN PRINCIPLE be retained and that the following be added to the committee statement:

See Comment 5000-331a by BLD-AXM which was information balloted

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO:

SUBMITTER: See Comment 5000-331a by BLD-AXM which was information balloted

TCC Action: The Technical Correlating Committee (TCC) directs that the proposal while maintaining some of the important parts of this proposal.

(2000/147=14) approximately 14 stories. This accumulating of capacity is done for the purposes of the requirement of Section 11.3 are NOT cumulative on a story-by-story basis.

COMMITTEE STATEMENT:

The committee action is based on recognition that the extra width is needed where counterflow is expected (that is, where the egress capacity of a stair is 50 or more ... that is, 2000 persons). The revised threshold (that is, the 2000 cumulative person criterion) for the provision was established in recognition that in buildings more than approximately 14 stories in height, emergency responders will be on site before all occupants have evacuated the building. Where a high-rise building does not use full evacuation, but - for example - practices staged evacuation, the extra stair width is needed to help assure safe counterflow in cases where it becomes necessary to go to a full evacuation mode in response to changing fire conditions.

The committee action is based on recognition that the extra width is needed where counterflow is expected (that is, where the egress capacity of a stair is 50 or more ... that is, 2000 persons). The revised threshold (that is, the 2000 cumulative person criterion) for the provision was established in recognition that in buildings more than approximately 14 stories in height, emergency responders will be on site before all occupants have evacuated the building. Where a high-rise building does not use full evacuation, but - for example - practices staged evacuation, the extra stair width is needed to help assure safe counterflow in cases where it becomes necessary to go to a full evacuation mode in response to changing fire conditions.

The committee action is based on recognition that the extra width is needed where counterflow is expected (that is, where the egress capacity of a stair is 50 or more ... that is, 2000 persons). The revised threshold (that is, the 2000 cumulative person criterion) for the provision was established in recognition that in buildings more than approximately 14 stories in height, emergency responders will be on site before all occupants have evacuated the building. Where a high-rise building does not use full evacuation, but - for example - practices staged evacuation, the extra stair width is needed to help assure safe counterflow in cases where it becomes necessary to go to a full evacuation mode in response to changing fire conditions.

COMMITTEE MEETING ACTION: Accept in Principle

Revise as follows:

11.2.2.2 Dimensional Criteria.

11.2.2.2.1 Standard Stairs.

11.2.2.2.1.1 Dimensional criteria for stairs, other than stairs for industrial equipment access as otherwise provided in 29.2.5.3, shall be in accordance with Table 11.2.2.2.1.1 and 11.2.2.2.1.2.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Dimensional Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum width clear of obstructions, except projections, not more than 4 1/2 in. (114 mm) at or below handrail height on each side</td>
<td>See 11.2.2.2.1.2.1 44 in. (1120 mm); 36 in. (915 mm) when total occupant load of all stories served by stairways is less than 50</td>
</tr>
<tr>
<td>Maximum height of risers</td>
<td>7 in. (180 mm)</td>
</tr>
<tr>
<td>Minimum height of risers</td>
<td>4 in. (100 mm)</td>
</tr>
<tr>
<td>Minimum tread depth</td>
<td>11 in. (280 mm)</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft. 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Maximum height between landings</td>
<td>12 ft. (3660 mm)</td>
</tr>
<tr>
<td>Landing</td>
<td>See 11.2.1.3 and 11.2.1.4.3</td>
</tr>
</tbody>
</table>

11.2.2.2.1 Minimum Stair Width.

(A) Where total occupant load of all stories served by the stairway is fewer than 50, the minimum width clear of all obstructions, except projections, not more than 4 1/2 in. (114 mm) at or below handrail height on each side, shall be 36 in. (915 mm).

(B) Where the cumulative required capacity of a stairway is 50 persons or more, the minimum clear width measured as the horizontal distance between two handrails shall be in accordance with Table 11.2.2.2.1.2(B) and the requirements of 11.2.2.2.1.2(C), (D) and (E).

Table 11.2.2.2.1.2(B) New Stair Width

<table>
<thead>
<tr>
<th>Cumulative Required Capacity of the Stairway</th>
<th>Stairway Width, Clear between Handrails</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 – 1999 persons</td>
<td>36 in. (910 mm)</td>
</tr>
<tr>
<td>2000 persons and more</td>
<td>48 in. (1220 mm)</td>
</tr>
</tbody>
</table>

(C) For downward egress travel, stairway width shall be based on the total number of occupants from stories above the level where the width is measured.

(D) For upward egress travel, stairway width shall be based on the total number of occupants from stories below the level where the width is measured.

(E) The total cumulative load assigned to a particular stairway shall be the sum of the stairway’s prorated share of the total occupant load, calculated in proportion to the stairway width as measured between handrails.

A 11.2.2.2.1.2(B) The stairway width requirement of 11.2.2.2.1.2(B) is based on accumulating the required capacity of the stair on each story the stairway serves. For example, a stair in a 2-story building that has 2000 persons on the second story but has 10 equally-sized stairs that serve the second story, would be considered to have 200 persons for the purposes of applying Table 11.2.2.2.1.2(B). A typical 44-in. (1120-mm) stair would not be required to be increased in width so as to provide 48 in. (1220 mm) between handrails until it serves approximately 14 stories, calculated as follows:

\[
\text{Stair width} = \frac{2000 \text{ persons}}{147 \text{ persons per floor for a 44-in. (1120-mm) width stair}} = 14 \text{ stories.}
\]

The accumulating of capacity is done for the purposes of the requirement of 11.2.2.2.1.2 only. The egress capacity requirements of Section 11.3 are NOT cumulative on a story-by-story basis.
complete evacuation of tall buildings such as fire-resistant construction, other potential means for emergency responder access, structural design considerations, etc. To merely widen a stair to an arbitrarily chosen width because the occupant load exceeds 2,000, does not in and of itself fully address if complete and safe evacuation will be achieved. Stair width should be one part of a complete building evaluation and even then the solution should have a direct relationship to a stated goal. Based on this, I believe the committee’s action should have been to reject.

FRABLE: For the record, GSA is not opposed to technically sound Code proposals that attempt to improve overall building safety. This would include proposals to increase the width of exit stairways in buildings. However GSA is not convinced that this proposal and the substantiation provided is technically sound.

Currently, as written, proposal 101-46 is not technically sound for the following reasons:

1. Horizontal Exits. The proposal has not taken into consideration the use of horizontal exits. In 7.2.4.1.2, horizontal exits are permitted to be substituted for other exits where the total egress capacity of the other exits (stairs, ramps, doors leading outside the building) is not less than half that required for the entire area of the building or connected buildings and provided that none of the other exits, is a horizontal exit, unless provided in 7.2.4.1.3. However, proposal 101-46 appears to have discounted the use of horizontal exits. In addition, the proposal has not addressed how the calculated total occupant load of each floor that uses horizontal exits is to be addressed or how horizontal exits will affect the overall capacity proposed for determination. I urge the minimum stair widths should be 36 in. rather than using—for wider stairs—the clear handrail-to-handrail width. In the conventional nominal width measurement is used (e.g., 36 in., 44 in. and 56 in. rather than using—for wider stairs—the clear handrail-to-handrail width.

2. Stair Width Thresholds. The proposal has gaps in the thresholds for when the requirements for the new minimum stair widths are to be applied. The proposed new 7.2.2.2.1.2(A) states where “total occupant load of all stories served” is fewer than 50, the minimum clear width shall be 36 in. rather than using—for wider stairs—the clear handrail-to-handrail width. Examinations show that if the clear width is measured between the handrails, no minimum clear width should be 36 in. rather than using—for wider stairs—the clear handrail-to-handrail width. Conventional nominal width measurement is used (e.g., 36 in., 44 in. and 56 in. rather than using—for wider stairs—the clear handrail-to-handrail width.

3. Cumulative Required Capacity. The proposal leads to confusion related to capacity issues addressed in 7.2.4 and Section 7.3.

4. Additional Stairs. The proposal does not address high-rise buildings that may have additional stairways on lower floors for determining the total occupant loads of all stairways.

5. Size of Stairs. No guidance has been provided to determine how one pro-rates the total cumulative occupant load for each floor when each stair is equally sized or when each stair is not equally sized. For example, no criterion has been provided to determine how many occupants are assigned to each stair. 6.2000 cumulative person criterion. This criterion states that the basis for the trigger of 2000 cumulative person criterion was established in recognition that in buildings more than approximately 14 stories in height, emergency responders will be on the site before all occupants have evacuated the building. However, no documentation has ever been provided to substantiate this claim. What makes the trigger of 2000 cumulative person criterion better than a trigger of 1500 cumulative person criterion or a trigger of 2500 cumulative person criterion.

Based on the above concerns, the appropriate action on this comment should have been “Reject.”

KULIGOWSKI: As a personal vote, I am certainly in favor of wider stairs; however, I am not convinced that the numbers of occupants and the corresponding stair width are appropriate.

First, I am still unclear as to what these numbers are based on. There does not seem to be enough substantial evidence to support the increment of stair widths associated with the number of occupants served by the stairway, as listed in the original proposal by Pauls and the amended version by Lathrop. I question how the occupant number and the corresponding stair width were decided upon. Pauls includes data on obesity of the U.S. population from 1960 to 1990 and other sources (e.g., 1976, 1983). However, I refer to the work by Pauls on the movement data on stairs only as recent as the mid 1980s. So, my concern reflects the fact that we do not have recent people movement data (especially on counterflow) to point to that clearly compares movement in many different sized staircases, so that the most appropriate stair size can be chosen to be included in the code.

Second, in the attempt to support the increased width, it is not clear that the additional width is providing significant additional capacity. For example, since the committee chose not to increase door width commensurate with the added stair width, discharge capacity at the bottom of these wider stairs may become the controlling factor rather than stair width. Finally, the presentation of the data in the final proposed new section in Comment 101-46 is inconsistent. For new stairs serving less than 50 occupants, the minimum clear width excludes handrails while for wider stairs, the minimum clear width is measured between handrails. This can only lead to confusion. Regardless of width, the measurement should be consistent. The table at the right provides a set of consistent values for each approach. Unfortunately, the proposed standard does not

### Table 7.2.2.2.1.2

<table>
<thead>
<tr>
<th>Feature</th>
<th>Dimensional Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum width</td>
<td>See 7.2.2.2.1.2</td>
</tr>
<tr>
<td>Maximum height of risers</td>
<td>7 in. (180 mm)</td>
</tr>
<tr>
<td>Minimum height of risers</td>
<td>4 in. (100 mm)</td>
</tr>
<tr>
<td>Maximum tread depth</td>
<td>11 in. (285 mm)</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Maximum height between landings</td>
<td>12 ft (3660 mm)</td>
</tr>
</tbody>
</table>

### Landings

- See 7.2.1.3, and 7.2.1.4.4 and 7.2.2.5.2

Table 7.2.2.2.1.2(b) Existing Stairs [No change to table]

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**EXPLANATION OF ABSTENTION:**

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This comment emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

**COMMENT ON AFFIRMATIVE:**

DE VRIES: In addition to the issue of counterflow between evacuees and emergency responders, there are other issues addressed by this comment, related comments and the related proposal, including movement of two columns of people traveling in the same direction and movement related to assisting mobility-impaired evacuees, as indicated in the substantiation submitted with Proposal 5000-526.

As accepted in principle, there remain some awkward provisions, such as two differing methods of measuring stair width and a mixture of terminology regarding the cumulative occupant load, which have been addressed appropriately by action of an occupancy committee.

KOFFEL: I am aware that several other Technical Committees have reviewed the attention on Comment 5000-523 and proposed further modifications. The TCC will need to review the other proposed Committee Comments and potentially note that the Committee Action on this comment has been further revised.

PAULS: Jake Pauls’ Affirmative Ballot Comment, on 101-46, Reporting Substantiation from Two Occupancy Committees on the Means of Egress TC action to Accept in Principle Comments 101-46, Comment also applies to 5000-323, substituting Chapter 11 for Chapter 7.

At the recent NFPA 101 and NFPA 5000 occupancy technical committee meetings in San Diego, I participated in a meeting of the MER TC to encourage it to remove its exception to the new increased minimum stair width rule being considered by the MEA TC. While unsuccessful with this, I did come to a good understanding of the MER TC position; there seemed to be a consensus in favor of the new increased minimum width but there were concerns about how the new requirement was presented. Therefore, I prepared a draft comment—addressing MER TC concerns—and presented it the next day to three other occupancy committees which accepted the draft comment without any modification. This affirmative ballot comment provides a record of what happened as well as the end result for two of the three TC’s (with only minor editorial corrections made as well).

Apparently, if sustained by Occupancy Committee letter ballots, the Comment would be sent to the MEA TC as an information ballot that would also be considered by the appropriate Technical Correlating Committee when it addresses Comments 101-46.

**Substantiation.** This suggestion addresses three specific concerns of the MER TC (on 11/8/04): a gap in the thresholds for 36-in. minimum width and other widths; the effect of horizontal exits; and the effect of additional exits at the lower stories of a building. The elimination of language about “Cumulative Required Capacity” should eliminate possible confusion about capacity issues addressed by sections 7.2.4 and 7.3. Annex notes should further assist in clearing up confusions on this.

In addition, because of possible confusion when using two different methods of specifying minimum stair width (as in the original proposal), only the cumulative nominal width is used (e.g., 36 in., 44 in. and 56 in. rather than using—for wider stairs—the clear handrail-to-handrail width. Subsequently, by simply adding the reference to 7.2.2.3.2 to Table 7.2.2.2.1.(a), the term “stair,” instead of “stairway,” can be used consistently in this section (because the width of the landings is linked to stair width in 7.2.2.2.2.).

7.2.2.2.2 Dimensional Criteria.

7.2.2.2.1 Standard Stairs.

7.2.2.2.1.1 Stairs shall meet the following criteria:

1. New stairs shall be in accordance with Table 7.2.2.2.1.1(a) and 7.2.2.2.1.2.
2. Existing stairs shall be permitted to remain in use, provided that they meet the requirements for existing stairs shown in Table 7.2.2.2.1.1(b).
3. Approved existing stairs shall be permitted to be rebuilt in accordance with the following:
   a. Dimensional criteria of Table 7.2.2.2.1.1(b)
   b. Other stair requirements of 7.2.2

4. The requirements for new and existing stairs shall not apply to stairs located in industrial equipment access areas where otherwise provided in 40.2.5.2.

### Table 7.2.2.2.1.1(a) New Stairs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Dimensional Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum width</td>
<td>See 7.2.2.2.1.2</td>
</tr>
<tr>
<td>Maximum height of risers</td>
<td>7 in. (180 mm)</td>
</tr>
<tr>
<td>Minimum height of risers</td>
<td>4 in. (100 mm)</td>
</tr>
<tr>
<td>Maximum tread depth</td>
<td>11 in. (285 mm)</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Maximum height between landings</td>
<td>12 ft (3660 mm)</td>
</tr>
</tbody>
</table>

Table 7.2.2.2.1.1(b) Existing Stairs [No change to table]
7.2.2.2.1.2 Minimum New Stair Width.

(A) Where total occupant load of all stories served by the stair is fewer than 50, the minimum width clear of all obstructions, except projections not more than 4 1/2 in. (114 mm) at or below handrail height on each side, shall be 36 in. (915 mm).

(B) Where stairs serve occupant loads exceeding that permitted by (A), the minimum width clear of all obstructions, except projections not more than 4 1/2 inches (114 mm) at or below handrail height on each side.

Table 7.2.2.2.1.2(B) New Stair Width

<table>
<thead>
<tr>
<th>Total Cumulative Occupant Load Assigned to the Stair</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 2000 persons</td>
<td>44 in. (1120 mm)</td>
</tr>
<tr>
<td>2000 persons and more</td>
<td>56 in. (1422 mm)</td>
</tr>
</tbody>
</table>

(C) The total cumulative occupant load assigned to a particular stair shall be that stair's prorated share of the total occupant load, as stipulated in (D) and (E), calculated in proportion to the stair width.

(D) For downward egress travel, stair width shall be based on the total number of occupants from stories above the level where the width is measured.

(E) For upward egress travel, stair width shall be based on the total number of occupants from stories below the level where the width is measured.

A.7.2.2.2.1.2(B) The stair width requirement of 7.2.2.2.1.2(B) is based on accumulating the occupant load on each story the stair serves.

The accumulation of occupant load is done for the purposes of the requirement of 7.2.2.2.1.2 only. The egress capacity requirements of Section 7.3 are NOT cumulative on a story-by-story basis.

If additional exits provide egress capacity, the occupant load served by such additional exits—up to the limit permitted for the egress capacity of such additional exits—should not be added to the total occupant load considered for the minimum stair width requirements of Section 7.2.2.2.1.2.

If horizontal exits are provided on any of the stories, the total occupant load of all compartments on the story with the horizontal exit is used in the calculation of the minimum stair width requirements of 7.2.2.2.1.2. The number of stairs permitted through application of horizontal exit requirements in 7.2.4, is not affected by the minimum stair width requirements of 7.2.2.2.1.2.

The following examples illustrate applications of the minimum stair width requirement. (1) A stair in a 2-story building that has 2000 persons on the second story, among 10 equally-sized stairs that serve the second story, would be considered to have 200 persons for the purposes of applying Table 7.2.2.2.1.2(B). The minimum width of such a stair would be 44 in. (1120 mm).

(2) For a relatively large floor area building, a typical 44-in. (1120-mm) stair width would not be required to be increased in width until it serves approximately 14 stories, calculated as follows:

- For 2000 persons [gress travel, per floor for a 44-in. (1120-mm) width] = 14 stories. For egress in the descending direction, only the stair width below the 14 stories with the total occupant load of 2000 persons per stair, or 4000 persons if served by two equally sized stairs, would need to be increased to 56 in. (1422 mm). If the building had 20 stories, only the stairs on the lowest 7 stories would be required to have the 56-in. (1422 mm) width.

- For a 41-story building with 200 persons on each story (or 8000 persons overall, not including the ground floor) with two equally-sized stairs, each stair would be considered to have 4000 persons for the purposes of applying Table 7.2.2.2.1.2(B). Only the portion of the stair serving 2000 persons would be required to have the 56-in. (1422 mm) width. If each story provides the same floor area for occupancy, the upper 20 stories would have 44-in. (1120 mm) stairs and the lowest 20 stories would have the 56-in (1422 mm) stairs as a minimum.

5000-324 Log #431 BLD-MEA

FINAL ACTION: Reject

11.2.x.3, 11.2.1.2.4.x) SUBMITTER: Jake Pauls, Jake Pauls Consulting Services

COMMENT ON PROPOSAL NO: 5000-526

RECOMMENDATION: Suggest new text as shown below:

11.2.x.3 For minimum door opening width discharging from stairways in compliance with 11.2.x.2, see 11.2.1.2.4.x.

11.2.1.2.4.x The occupant egress carrying capacity of door openings and stairways is based on the two-to-three ratio used in Table 11.3.3.1. For example, a stairway with a nominal width of 57 inches (1448 mm)—with the allowance, permitted by 11.3.2 for 4 1/2 in. (114 mm) of handrail projection on each side—beyond a clear handrail-to-handrail width of 48 in. (1220 mm) would require a clear opening to the stairway of 38 in. (965 mm) if an assumption of only one discharge door was provided. It might be advantageous for two discharge doors to serve such a stairway, each with a more typical clear opening width of 32 in. (810 mm). This would facilitate access, into the exit of firefighters and other emergency

SUBSTANTIATION: This is a clarification and correlation change needed to address concerns expressed by some people regarding an increase in minimum stairway width (under proposal 5000-526). The proposed annex note provides background on the technical issue of relative performance of stairs and doors. Note that the two-to-three ratio is the one fitting best with current practice in relation to capacity rules. A three-to-four ratio is also referred to in egress research literature (e.g. the “Movement of People” chapter in the SFPE Handbook of Fire Protection Engineering)—which would result in a more-conservative choice of minimum door width. This is one reason that the full 4 1/2 inches of handrail projection into the capacity-credited stair width is assumed here, as opposed to a minimum 3 1/2 inches (with 1 1/4 inch handrail width and 2 1/4 clearance). In other words, a slightly conservative handrail provision assumption is made in conjunction with the less-conservative ratio of relative performance of doors and stairs. Otherwise, with the assumption of a three-to-four ratio, the discharge door opening would be 42 3/4 inches minimum with a 57-inch nominal stair width or 41 1/4 inches minimum with a 55-inch nominal stair width. Further refinement of this matter would require synergetic collection and analysis going beyond the scope of this note on evacuation flows. To go beyond the relatively crude egress technology used in traditional and current code requirements, use should be made of the more sophisticated “effective-width model” for evacuation flow that is discussed in the SFPE Handbook of Fire Protection Engineering.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: This comment is directed to the stair width issue of Comment 5000-323. The wider stair is to facilitate counterflow on the stair. A person entering the building through a door opening while others are exiting the building through the same door creates an impediment for just a couple seconds. The upward traveling person encroaches on stair width the whole time they are climbing the stairs. Thus, the stair needs to be made wider, but the door does not.

If the greater stair width required by the action on Comment 5000-323 is then taken as receive credit for the increased stair capacity, then the door width need to be made wider for compliance with the existing requirements related to capacity of means of egress. Thus, the issue raised by the submitter is self-correcting.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULT: Affirmative: 19 Negative: 4 Abstain: 1

EXPLANATION OF NEGATIVE:

DE VRIES: Having increased the width of the stairs per Comment No. 5000-523, Proposal 5000-526 and related actions, and thus facilitated flow of evacuees and emergency responders, it is counterintuitive to fail to address the point that will result in primary means of evacuation widths being turned over by written ballot, I encourage the proponent to address the issues raised in the committee substantiation and resubmit this, or a similar, proposal.

ELVOVE: First of all, the modifications made by the occupancy technical committees to comment 5000-323 et al subsequent to the MEA ROC meeting seem to have improved upon the text of the proposed new requirements for wider stairs in high-rise (or extremely high occupancy) buildings. Therefore, if wider stairs will be required to allow for sufficient (downward) egress capacity and (upward) counterflow, then the egress (ingress) doors really need to be increased in size to accommodate bidirectional flow. Should this comment not be accepted, then I would change my affirmative vote on Comments 5000-323, 5000-332, 5000-334 and 5000-335 to negative as I would not widen stairs without adequately sized doors.

KULIGOWSKI: The committee voted to reject this comment (to widen the door at the base of the stair) after voting to accept the comment to widen the staircase depending upon the total number of occupants using the staircase in the building. I am not in favor of widening the stairs without widening the door at the base of the staircase. Without commensurate increase in door width at the stairway exit, the exit discharge capacity may become the controlling factor in occupant egress, negating any positive effects of increased stairwidth.

PAULS: I am persuaded by the concerns raised in the negative ballots of de Vries, Di Pilla and Kuligowski on MEA TC actions on comments 101-67 and 5000-324. Please record me as changing my ballot to negative on MEA TC action on comment 101-67 and 5000-324. The comments should have been accepted by the TC.

I was silent on this during the first round of balloting (even with 101-67 and 5000-324 being my comments) because I had been led to believe that the codes already addressed the sizing of exit discharge doors when the stair width was increased. As the committee comment claimed, there would be self correction. However, this assumption is to discharge doors of 38 in. (965 mm) if an assumption of only one discharge door was provided. It might be advantageous for two discharge doors to serve such a stairway, each with a more typical clear opening width of 32 in. (810 mm). This would facilitate access, into the exit of firefighters and other emergency.
COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT:

The Safe Evacuation Coalition (SEvacC) is a newly formed group of 2003 minimum stair width requirements. The annex note would not be a "choke point" for egress flow. This, as well as emergency responder access to the exit, was also a concern of members of the newly formed NFPA High-Rise Building Safety Advisory Committee which met a couple of days prior to the deadline for submitting this circulation ballot. This new advisory committee's apparent support for wider stairs, and its specific concern that the discharge doorway would be appropriately sized, also influenced my last-minute submission of this negative ballot.

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

SUBMITTER:

David A. de Vries, Firetech Engineering / Rep. Safe Evacuation Coalition

COMMENT ON PROPOSAL NO: 5000-526

RECOMMENDATION:

Add new text to read as follows:

11.2.x.3 Where an escape device, group of devices or system is installed in accordance with 11.2.14.2 in a building, or portion thereof, and the total occupant load of all stories served by the stairway in that building, or portion thereof, is 50 or more, the minimum width of new stairs clear of all obstructions, except projections not more than 114 mm (4 1/2 in.) at or below, handrail height on each side shall be 1120 mm (44 in);

SUBSTANTIATION:

Where an escape device, group of devices or system is installed in accordance with 11.2.14.2, NFPA 101 is consistent with NFPA 105, which states that stairway discharge door width should not be a "choke point" for egress flow. The cost differential between keeping doors closed versus increasing the width of the stairs is limited without a comparable increase in the door width. The Safe Evacuation Coalition (SEvacC) is a newly formed group of 2003 minimum stair width requirements. The annex note would not be a "choke point" for egress flow. This, as well as emergency responder access to the exit, was also a concern of members of the newly formed NFPA High-Rise Building Safety Advisory Committee which met a couple of days prior to the deadline for submitting this circulation ballot. This new advisory committee's apparent support for wider stairs, and its specific concern that the discharge doorway would be appropriately sized, also influenced my last-minute submission of this negative ballot.

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

SUBMITTER:

James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON AFFIRMATIVE

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. While the Committee Action on this comment may not need to be revised based upon the ballot results on Comment 5000-343, I merely want to highlight this Public Comment as part of the package of comments. Please see my ballot comment regarding Comment 5000-343.

BALLOT RESULTS:

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT:

The action does what the submitter requested, but changes "shall be installed in accordance with NFPA 105" to "shall be in accordance with NFPA 105, Standard for the Installation of Smoke Door Assemblies", shall be tested in accordance with UL 1784. This should meet the submitter's intent.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT:

The action on the comment referenced above in the committee action field should meet the intent of the negative ballots and other vote comments referenced by the Technical Correlating Committee.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

TCC Action: The Technical Correlating Committee (TCC) request that BLD/SAF-MEA address the issues of electrically locked egress doors during the next revision cycle of NFPA 5000. As indicated in Mr. Elvove's affirmative with comment vote, this configuration is becoming more common and the code does need to address this arrangement.

SUBMITTER:

James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-522

RECOMMENDATION: Reject the Proposal.
Do not revise 11.2.1.6.2 to address electrically locked egress doors. Rather, keep 11.2.1.6.2 as applying to access controlled egress doors and revise the language in this section as follows:

11.2.1.6.2 Access-Controlled Egress Doors. Where permitted in Chapter 16 through Chapter 30, doors in the means of egress shall be permitted to be equipped with an approved entrance and egress access control system, provided that all the following criteria are met:

1. The access-controlled egress doors shall be a standard means of access to the means of egress. The provisions of 11.2.1.6.2 shall be provided.
   - A sensor shall be provided on the egress side and arranged to detect an occupant approaching doors, and the doors shall be arranged to unlock in the direction of egress upon detection of an approaching occupant or loss of power to the sensor. The sensor shall be panic hardware or fire exit hardware that, when operated, unlocks the door shall be provided.
2. Loss of power to the part of the access control system that locks the doors shall automatically unlock the doors in the direction of egress.
3. The doors shall be arranged to unlock in the direction of egress from a manual release device, located 40 in. to 48 in. (1015 mm to 1220 mm) vertically above the floor and within 60 in. (1525 mm) of the secured doors.
4. The manual release device specified in 11.2.1.6.2(3) shall be readily accessible and clearly identified by a special sign that complies with 11.10.8.1 and 11.10.8.2 and reads as follows: PUSH TO EXIT.
5. When operated, the manual release device specified in 11.2.1.6.2(3) shall result in direct interruption of power to the lock - independent of the access control system electronics - and the doors shall remain unlocked for not less than 30 seconds.
6. Activation of the building fire-protective signaling system, if provided, shall automatically unlock the doors in the direction of egress, and the doors shall remain unlocked until the fire-protective signaling system has been manually reset.
7. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors in the direction of egress, and the doors shall remain unlocked until the fire-protective signaling system has been manually reset.

A.11.2.1.5,4* A latch or other fastening device on a door shall be provided with a releasing device having an obvious method of operation and that is readily operated under all lighting conditions. The releasing mechanism for any latch shall be located not less than 34 in. (86 cm), and not more than 48 in. (122 cm) above finished floor. Doors shall be operable with not more than one releasing operation.

A.11.2.1.5,4 Examples of devices that might be arranged to release latches include knobs, levers, and panic bars. This requirement is permitted to be satisfied by the use of the conventional types of hardware, whereby the door is released by turning a lever, knob, or handle or by pushing against a panic bar, but not by unfamiliar methods of operation such as a blow to break glass. It is also within the intent of this requirement that switches integral to traditional door knobs, levers, or bars that interrupt the power supply to an electromagnet, lock, be permitted if affixed to the door leaf. The operating devices should be capable of being operated with one hand and should not require tight grasping, tight pinching, or twisting of the wrist to operate. Examples of the devices permitted by the exception to 11.2.1.5,4 that, where used with a latch, can be arranged to require not more than one additional releasing operation include night latches, dead bolts, and security chains.

COMMITTEE STATEMENT: The provision of 11.2.1.6.2(1)(b), addressing panic hardware, created problems. AHJs have been reported to require any door with an automatic fire protection system to include the types of traditional installations of hardware, whereby the door is released by turning a lever, knob, or handle or by pushing against a panic bar, but not by unfamiliar methods of operation such as a blow to break glass. It is also within the intent of this requirement that switches integral to traditional door knobs, levers, or bars that interrupt the power supply to an electromagnet, lock, be permitted if affixed to the door leaf. The operating devices should be capable of being operated with one hand and should not require tight grasping, tight pinching, or twisting of the wrist to operate. Examples of the devices permitted by the exception to 11.2.1.5,4 that, where used with a latch, can be arranged to require not more than one additional releasing operation include night latches, dead bolts, and security chains.

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electronic locks on egress doors. See my similar comments on 5000-148 and 5000-134.

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: Give consideration to Koffel’s and Versteeg’s explanation of negative and Elvoe’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept Principle

COMMITTEE ON AFFIRMATIVE

ELVOE: I agree with the technical committee’s action of rejecting the original proposal which created a separate, somewhat verbose (and apparently unnecessary) section for elevator lobby egress where such lobbies are locked and the only egress from the elevator lobby is through the locked (e.g., tenant) space. However, as stated in my comment on the affirmative during the ROP ballot, the intent of the original proposal was to ensure occupants can egress from locked elevator lobbies by using a manual pull station where located in the elevator lobby to automatically unlock elevator lobby doors via the fire alarm system instead of having to install an additional “push to exit” button. With the rejection of proposal 5000-524 which attempted to create a separate section for “Electronically Locked Egress Doors,” this situation is not adequately addressed by the Code. Note: elevator lobby exit access is currently addressed by 11.4.1.6 which states: “Elevators shall have access to at least one exit. Such exit access shall not require the use of a key, tool, special knowledge or special effort.” However this paragraph wouldn’t preclude using electronically locked egress doors. See my similar comments on 5000-148 and 5000-328.

5000-331 Log #105 BLD-MEA FINAL ACTION: Accept in Principle

COMMITTEE ON AFFIRMATIVE

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMENT ON AFFIRMATIVE

ELVOE: Where the accumulating of capacity is not adequately addressed by the Code. The number of stairs permitted through application of horizontal exit requirements, in 11.2.4, is not affected by the minimum stair width requirements of Table 11.2.2.1.2.

The following examples illustrate applications of the minimum stair width requirements.

(1) A 2-story building that has 2000 persons on the second story but has among 10 equally-sized stairs that serve the second story, would be considered to have 200 persons for the purposes of applying Table 11.2.2.1.2(B). The minimum width of such a stair would be 44 in. (1120 mm).

(2) For a relatively large floor area building, a typical 44-in. (1120-mm) stair would not be required to be increased in width so as to provide 48 in. (1220 mm) between handrails until it serves approximately 14 stories, calculated as follows:

2000 persons / [147 persons per floor for a 44-in. (1120-mm) width] = 14 stories.

For egress in the descending direction, only the stair width below the 14 stories with the top occupant load of 2000 persons per stair, or 4000 persons if served by two equally sized stairs, would need to be increased to 56 in. (1420 mm). If the building had 20 stories, only the stairs on the lowest 7 stories would be required to have the 56-in. (1420 mm) width.

(3) For a 41-story building with 200 persons on each story (or 8000 persons overall, not including the ground floor) with two equally-sized stairs, each stair would be considered to have 4000 persons for the purposes of applying Table 11.2.2.1.2(B). Only the portion of the stair serving 2000 persons would be required to have the wider width. If each story provides the same floor area for occupancy, the upper 20 stories would have 44 in (1120 mm) stairs and the lowest 20 stories would have the 56 in (1420 mm) stairs as a minimum.

SUBSTANTIATION: The BLD-MEA means of egress committee prepared its action on Comment 5000-323 two weeks before the occupancy chapter committees met. The BLD-AXM assembly occupancies committee met after the BLD-MER mercantile/business occupancies committee met and had the benefit of hearing the concerns raised by BLD-MER. The changes proposed above in the Recommendation answer those concerns.

Table 11.2.2.1.1 Stairs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Dimensional Criteria</th>
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</tr>
<tr>
<td>Minimum height of risers</td>
<td>4 in. (100 mm)</td>
</tr>
<tr>
<td>Minimum tread depth</td>
<td>11 in. (280 mm)</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Minimum height between handings</td>
<td>12 ft (3660 mm)</td>
</tr>
<tr>
<td>Landing</td>
<td>See 11.2.1.3, and 11.2.1.4.3 and 11.2.2.3.2</td>
</tr>
</tbody>
</table>

Table 11.2.2.1.2 Minimum Stair Width

<table>
<thead>
<tr>
<th>Stair Width Description</th>
<th>Dimensional Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 50</td>
<td>42 in. (1060 mm)</td>
</tr>
<tr>
<td>50 persons</td>
<td>44 in. (1120 mm)</td>
</tr>
<tr>
<td>2000 persons and more</td>
<td>48 in. (1220 mm)</td>
</tr>
</tbody>
</table>

Cumulative Required Capacity of the Stairway

| Stairway Width, Clear between Handrails |
|----------------------------------------|-------------------|
| Fewer than 2000 persons                | 42 in. (1060 mm)  |
| 2000 persons and more                   | 48 in. (1220 mm)  |

Table 11.2.2.2.1 New Stair Width

<table>
<thead>
<tr>
<th>Total Cumulative Occupant Load Assigned to the Stair</th>
<th>Stairway Width, Clear between Handrails</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 2000 persons</td>
<td>42 in. (1060 mm)</td>
</tr>
<tr>
<td>2000 persons and more</td>
<td>48 in. (1220 mm)</td>
</tr>
</tbody>
</table>
In accordance with the Rules of Procedure, the BLD-MEA committee, which has primary responsibility for Chapter 11 on means of egress, will be "information balloted" on these changes. The results of the informational ballot will be presented to the Technical Correlating Committee which will decide whether the amended language goes forward for Association action.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 30

**BALLOT RESULTS:** Affirmative: 24

**BALLOT NOT RETURNED:** 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

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**5000-331b Log #5000 BLD-RES**

**FINAL ACTION:** Accept in Principle (11.2.2.2)

**TCC Action:** The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to *ACCEPT IN PRINCIPLE.* See the related actions on Comment 5000-331a. The action by BLD-RES was jointly letter balloted with that of Comment 5000-331a to the BLD-MEA committee with the same results as reported in the TCC note on that comment. The TCC also wishes to note that Mr. Hammerman’s negative is not applicable to the subject of the comment.

**SUBMITTER:** Technical Committee on Residential Occupancies

**COMMENT ON PROPOSAL NO:** 5000-526

**RECOMMENDATION:** Further revise the text that resulted from BLD-MEA committee action on Comment 5000-323 as follows:

11.2.2.2 Dimensional Criteria.

11.2.2.2.1 Standard Stairs.

11.2.2.2.1.1 Dimensional criteria for stairs, other than stairs for industrial equipment access as otherwise provided in 29.2.5.3, shall be in accordance with Table 11.2.2.2.1.1 and 11.2.2.2.1.2.

---

### Table 11.2.2.2.1.1 Stairs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Dimensional Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum width</td>
<td>See 11.2.2.2.1.2</td>
</tr>
<tr>
<td>Maximum height of risers</td>
<td>7 in. (180 mm)</td>
</tr>
<tr>
<td>Minimum height of risers</td>
<td>4 in. (100 mm)</td>
</tr>
<tr>
<td>Minimum tread depth</td>
<td>11 in. (280 mm)</td>
</tr>
<tr>
<td>Minimum headroom</td>
<td>6 ft 8 in. (2030 mm)</td>
</tr>
<tr>
<td>Maximum height between landings</td>
<td>12 ft (3660 mm)</td>
</tr>
<tr>
<td>Landing</td>
<td>See 11.2.1.3, 11.2.1.4.3 and 11.2.2.3.2</td>
</tr>
</tbody>
</table>

#### 11.2.2.2.1.2 Minimum Stair Width.

A. Where total occupant load of all stories served by the stair is fewer than 50, the minimum width clear of all obstructions, except projections not more than 4 1/2 in. (114 mm) at or below handrail height on each side, shall be 36 in. (915 mm).

**RECOMMENDATION:** This committee comment represents further revisions to the action taken by the Technical Committee on Means of Egress on Comment 5000-526, as presented to this committee by member Jake Pauls. The committee endorses these further revisions for the reasons presented by Mr. Pauls at the ROC meeting, as follows:

"This suggestion addresses three specific concerns of the MER TC (on 11.2.1.3) as they relate to the horizontal exits; and the effect of additional exits at the lower stories of a building. The elimination of language about "Cumulative Required Capacity" should eliminate possible confusion about capacity issues addressed by sections 7.2.4 and 7.3. Annex notes should further assist in clearing up confusions on this.

In addition, because of possible confusion when using two different methods of specifying minimum stair width (as in the original proposal), only the conventional nominal width measurement is used (e.g., 36 in., 44 in. and 56 in., rather than using-for wider stairs-the clear handrail-to-handrail width. See 11.2.1.3, by simply adding 36 in. to 29.2.5.3.2 to Table 7.2.2.3.2(a)) and 11.2.2.2.1.2(b), the term "stair," instead of "stairway," can be used consistently in this section (because the width of the landings is linked to stair width in 7.2.2.3.2.)."

The committee notes this action is subject to an informational ballot to SAF-MEA since that committee is responsible for Chapter 11, and it met prior to SAF-RES.

---

### Table 11.2.2.2.1.2(B) New Stair Width

<table>
<thead>
<tr>
<th>Total Cumulative Occupant Load Assigned to the Stair</th>
<th>Stairway Width, Clear-between-Handrails</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1900 persons</td>
<td>36 in. (910 mm)</td>
</tr>
<tr>
<td>1900 persons and more</td>
<td>44 in. (1120 mm)</td>
</tr>
</tbody>
</table>

**EXPLANATION OF NEGATIVE:**

HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons:

1. Historically, fires are likely to occur more often in the kitchen and dining area of single family dwellings for the following reasons:

   a. Therefore, why not simply sprinkler those areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would add the cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should purge the Prince George’s County, Maryland fire experience and promote a simple, inexpensive, solution of a few sprinklers in the high risk areas of the home?

2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backup device and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system; thus, making the dwelling less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.

As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of...
COMMITTEE STATEMENT:

of BLD-IND are not convinced that the proposed revision adequately addresses safety and egress concerns associated with high rise buildings. Some members directed that these concerns be documented in the ROC.

A more holistic approach is required to adequately address the perceived problem that can be resolved by wider stairs. Firefighting operations within high-rise buildings and voted to support the general concept of wider stairs within the context of high-rise buildings, a number of concerns as noted below were raised during committee deliberations by TC members and the committee directed that these concerns be documented in the ROC.

1. A more holistic approach is required to adequately address the perceived safety and egress concerns associated with high rise buildings. Some members of BLD-IND are not convinced that the proposed revision adequately addresses the issues and that it only offers an intermediate step that will be revised in the future.

2. Wider stairs may not be the most effective means of addressing the perceived concerns and the requirement for wider stairs may be premature. Other safeguards or a combination of other safeguards with wider stairs might be more appropriate.

3. It is not clear if the wider stairs should be required for all stairs or only for certain stairs that are intended for both fire department use and egress.

4. All factors associated with obesity and an aging population may not have been given adequate consideration.

5. The TC has concerns about the technical basis associated with the 14 story height criteria and the occupant load criteria of 2000 people.

6. It is unclear if the extra stair width will achieve the desired objective of increased stair width criteria and the occupant load criteria of 2000 people.

7. Occupant behavior, such as occupants attempting to descend wider stairs at a faster rate and passing slower moving occupants, has not been sufficiently studied and could result in more trips and falls on wider stairs during emergency movement.

8. A more important factor might be the contamination of the stair by smoke and other products of combustion rather than stair width.

9. The defend in place concept, i.e., use of horizontal exits, which is currently allowed has not been properly considered in the application of the wider stair provisions.

10. The wider stair requirement may be premature considering that the NIST study has not yet been completed and released.

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “ACCEPT IN PRINCIPLE—See the TCC notes and action on 5000-323.

SUBMITTER: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

COMMENT ON PROPOSAL NO: 5000-526

RECOMMENDATION: The committee is in support of the BLD-MEA action of Accept in Principle on Comment 5000-323.

SUBSTANTIATION: See committee statement by BLD-MEA on Comment 5000-323.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: This committee comment is a result of proposed action by BLD-MEA on Comment 5000-323. While the committee agrees that there are perceived safety and egress concerns associated with high rise buildings and voted to support the general concept of wider stairs within the context of high-rise buildings, a number of concerns as noted below were raised during committee deliberations by TC members and the committee directed that these concerns be documented in the ROC.

A more holistic approach is required to adequately address the perceived safety and egress concerns associated with high rise buildings. Some members of BLD-IND are not convinced that the proposed revision adequately addresses the issues and that it only offers an intermediate step that will be revised in the future.

Wider stairs may not be the most effective means of addressing the perceived concerns and the requirement for wider stairs may be premature. Other safeguards or a combination of other safeguards with wider stairs might be more appropriate.

It is not clear if the wider stairs should be required for all stairs or only for certain stairs that are intended for both fire department use and egress.

All factors associated with obesity and an aging population may not have been given adequate consideration.

The TC has concerns about the technical basis associated with the 14 story height criteria and the occupant load criteria of 2000 people.

It is unclear if the extra stair width will achieve the desired objective of increased stair width criteria and the occupant load criteria of 2000 people.

Occupant behavior, such as occupants attempting to descend wider stairs at a faster rate and passing slower moving occupants, has not been sufficiently studied and could result in more trips and falls on wider stairs during emergency movement.

A more important factor might be the contamination of the stair by smoke and other products of combustion rather than stair width.

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4. All factors associated with obesity and an aging population may not have been given adequate consideration.

5. The TC has concerns about the technical basis associated with the 14 story height criteria and the occupant load criteria of 2000 people.

6. It is unclear if the extra stair width will achieve the desired objective of increased stair width criteria and the occupant load criteria of 2000 people.

7. Occupant behavior, such as occupants attempting to descend wider stairs at a faster rate and passing slower moving occupants, has not been sufficiently studied and could result in more trips and falls on wider stairs during emergency movement.

8. A more important factor might be the contamination of the stair by smoke and other products of combustion rather than stair width.

9. The defend in place concept, i.e., use of horizontal exits, which is currently allowed has not been properly considered in the application of the wider stair provisions.

10. The wider stair requirement may be premature considering that the NIST study has not yet been completed and released.

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “ACCEPT IN PRINCIPLE—See the TCC notes and action on 5000-323.

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COMMENT ON PROPOSAL NO: 5000-526

RECOMMENDATION: The committee is in support of the BLD-MEA action of Accept in Principle on Comment 5000-323.

SUBSTANTIATION: See committee statement by BLD-MEA on Comment 5000-323.

COMMITTEE MEETING ACTION: Accept

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1. A more holistic approach is required to adequately address the perceived safety and egress concerns associated with high rise buildings. Some members of BLD-IND are not convinced that the proposed revision adequately addresses the issues and that it only offers an intermediate step that will be revised in the future.

2. Wider stairs may not be the most effective means of addressing the perceived concerns and the requirement for wider stairs may be premature. Other safeguards or a combination of other safeguards with wider stairs might be more appropriate.

3. It is not clear if the wider stairs should be required for all stairs or only for certain stairs that are intended for both fire department use and egress.

4. All factors associated with obesity and an aging population may not have been given adequate consideration.

5. The TC has concerns about the technical basis associated with the 14 story height criteria and the occupant load criteria of 2000 people.

6. It is unclear if the extra stair width will achieve the desired objective of increased stair width criteria and the occupant load criteria of 2000 people.

7. Occupant behavior, such as occupants attempting to descend wider stairs at a faster rate and passing slower moving occupants, has not been sufficiently studied and could result in more trips and falls on wider stairs during emergency movement.

8. A more important factor might be the contamination of the stair by smoke and other products of combustion rather than stair width.

9. The defend in place concept, i.e., use of horizontal exits, which is currently allowed has not been properly considered in the application of the wider stair provisions.

10. The wider stair requirement may be premature considering that the NIST study has not yet been completed and released.
Table 11.2.x.2

<table>
<thead>
<tr>
<th>Total Occupant Load Serve by the Stairway</th>
<th>Stairway width clear between handrails</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 to 1999</td>
<td>36 in. (91 cm)</td>
</tr>
<tr>
<td>150 to 999 and more</td>
<td>48 in. (122 cm)</td>
</tr>
<tr>
<td>4000 to 1999</td>
<td>44 in. (112 cm)</td>
</tr>
<tr>
<td>2000 and more</td>
<td>48 in. (122 cm)</td>
</tr>
</tbody>
</table>

SUBSTANTIATION: Note: this comment addresses factors going beyond those presented in proposal 5000-526 as well as the lengthy TechnicalCorrelating Committee negative ballot comment from Pauls in relation to the MER Technical Committee’s counter proposal, 5000-781 (found, respectively on pages 5000-213 to 5000-216 and 5000-315 of the Report on Proposals). They should be read in concert with this comment. It should be noted that GSA’s representative, Mr. Frable, in his negative ballot comment, stated, “it appears the proponent has not taken into consideration when determining these arbitrary thresholds that 40% of the population in North America is seriously overweight.” This is incorrect.

An editorial change is suggested for the heading, changing “Stairway” to “Stairway” for consistency with the requirement (which addresses the minimum width of both the stair flight and the landings serving the stair).

Two problems are addressed by this comment, with the first possibility being addressed in a more substantial change based on the following (or similar) discussion. First, clarification is provided regarding where a stairway, serving a number of stories, needs to have the specified width. This change, to the text of 11.2.x.2 could be adopted without the more-substantial change suggested to the table. The clarification addresses some people’s criticism that the entire height of the stairway is to be considered, for example, if three stairways had a width, clear between handrails, of 48 inches, the apportioned total occupant load of the building would be, respectively, 15%, 30% and 30%.

There is a potential confusion here in relation to use of horizontal exits and the reduction permitted by 11.2.3.4. to stairway egress capacity. The clearest way of handling horizontal exits, in relation to the minimum width issue addressed here, is simply to ignore them. That is addressed in case of total evacuation of the building, the benefit of the horizontal exits is relatively localized and thus moot; the performance of the exit stairways will largely determine the speed and duration of the evacuation.

This clarification about where the width is specified would be largely unnecessary if the more-substantial change (in this comment) was adopted. This substantial change addresses the changed— and changing—demographics of building occupants in two respects. First relative to the research studies described by the proponent of proposal 5000-526, these were performed decades ago at a time and in mostly in a country (Canada) when and where people were both thinner and more physically fit than are typical US residents today. Being overweight or obese has become a national health problem in the US among adults and children—the very people who will occupy, and might need to evacuate, buildings for decades to come. Irrefutable evidence for this is in the statistics from the US Centers for Disease Control (CDC), which along with other health indicators, has reflected an overall body mass index (BMI) for US residents with these data being presented on a state-by-state, year-to-year basis on the web site http://www.cdc.gov/nchs/dphp/dbnpa/obesity/resources.htm. The occurrence of obesity (BMI greater than or equal to 30) has approximately doubled from about 15 percent to 31 percent between 1960 and 1980 among US adults and is reflected in overall body mass index (BMI) for US residents with these data being presented on a state-by-state, year-to-year basis on the web site http://www.cdc.gov/nchs/products/pubs/pubd/hestats/obese/osob99.htm.) The Surgeon General for the US (at (http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.htm) notes that:

- 61% of adults in the United States were overweight or obese (BMIs > 25) in 1999.
- 13% of children aged 6 to 11 years and 14% of adolescents aged 12 to 19 years were overweight in 1999. This prevalence has nearly tripled for adolescents in the past 2 decades.

The increases in overweight and obesity cut across all ages, racial and ethnic groups, and both genders. Notably, most of the Canadian office building evacuation studies—a major input for current US means of egress formulas on egress width and capacity—were already completed by the early 1970s. The same is true for the landmark studies of John Friar whose book, Pedestrian Planning and Design, was based on field studies (for his PhD) in the New York area before 1970. People, today—and even more so in the coming decades—are larger than those studied for these studies of a few decades ago in Canada and the US. Moreover, it is likely that the differences between today’s (tomorrow’s) building populations and those of several decades ago, when building code requirements for means of egress were formulated in the US, were already pronounced. (These earlier deliberations, resulting for example in the once-standard 22-inch unit of exit width—which is still the basis of the current 44-inch nominal, minimum egress stairway width, have been described in critical reviews by Pauls, published in the journal Fire Technology, in 1984 and referenced at the end of proposal 5000-526.)

In addition to people getting larger, they are becoming so because of reduced fitness generally. This affects people’s ability to cope with the physical demands of evacuation on stairs. One indication of this trend is the estimate of how many people would (or did) have difficulty evacuating down multiple stairways in evacuation studies of typical Canadian office workers, at about 1970, not being good candidates for using stairs for evacuation with a crowd of other descending persons, can be compared with more-recent US estimates about twice as large. Appendix O of the preliminary report issued by NIST in June 2004, on the World Trade Center evacuation, includes a table comparing US exit stairs, and longer than expected evacuation times, estimated in both US and UK studies so far of the WTC evacuation (as described, for example, in Proceedings of the 3rd International Symposium on Human Behaviour in Fires, 1994). Generally, there are multiple indications that people are not able to handle egress as quickly and efficiently as assumed in drawing up the current means of egress requirements.

Finally, we have an aging population generally. Increasingly, people are going to have to work longer than has been the case. Thus we must begin to design for an older population generally. This means providing more-generous, easier-to-use egress facilities.

All of the above factors point to wider minimum width for egress stairways. This comment is based on these considerations as well as the benefit of simplifying the formula for successively wider minimum widths suggested in proposal 5000-526. The most extensive simplification of the formula was explicitly noted, in the last paragraph of the proposal; the major simplification suggested in that last last paragraph of the proposal; and the partial simplification suggested in this comment—would be responsive to the demographics changes and evolving life safety capabilities described in this comment.

Note that there is a separate comment addressing a possible need to address the minimum width of exit discharge doorways from the wider stairways resulting from proposal 5000-526.

COMMITTEE MEETING ACTION: Accept in Part

See committee action on Comment 5000-323 re: how the cumulative loads are to be calculated, and criteria explaining what portion of the stairway needs to provide the increased width. Do not change the threshold so as to require extra width at a total occupant load of 150 persons.

COMMITTEE STATEMENT: The submitters’ criteria for how the cumulative loads are to be calculated, and explanation of what portion of the stairway needs to provide the increased width has been worked into the committee action on Comment 5000-323. The submitters have not substantiated their criteria for how many additional stairways were provided to serve a total occupant load of 3x above some level of the building, then each of the three stairways below that level would be assumed to serve a total occupant load of x. If one of the three stairways had a width, clear between handrails, of 60 inches and the other two had a width, clear between handrails, of 48 inches, the apportioned total occupant load served between 50 and 150. All of the above was based on proposals 5000-326. The most extensive simplification of the formula was explicitly noted, in the last paragraph of the proposal; the major simplification suggested in the last paragraph of the proposal; and the partial simplification suggested in this comment—would be responsive to the demographics changes and evolving life safety capabilities described in this comment.

Note that there is a separate comment addressing a possible need to address the minimum width of exit discharge doorways from the wider stairways resulting from proposal 5000-526.

See committee action on Comment 5000-323 re: how the cumulative loads are to be calculated, and criteria explaining what portion of the stairway needs to provide the increased width. Do not change the threshold so as to require extra width at a total occupant load of 150 persons.

COMMITTEE STATEMENT: The submitters’ criteria for how the cumulative loads are to be calculated, and explanation of what portion of the stairway needs to provide the increased width has been worked into the committee action on Comment 5000-323. The submitters have not substantiated their criteria for how many extra width at a total occupant load of 150 persons.

COMMITTEE STATEMENT: The submitters’ criteria for how the cumulative loads are to be calculated, and explanation of what portion of the stairway needs to provide the increased width has been worked into the committee action on Comment 5000-323. The submitters have not substantiated their criteria for how many extra width at a total occupant load of 150 persons.

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See committee action on Comment 5000-323 re: how the cumulative loads are to be calculated, and criteria explaining what portion of the stairway needs to provide the increased width. Do not change the threshold so as to require extra width at a total occupant load of 150 persons.

COMMITTEE MEETING ACTION: Accept in Part

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See committee action on Comment 5000-323 re: how the cumulative loads are to be calculated, and criteria explaining what portion of the stairway needs to provide the increased width. Do not change the threshold so as to require extra width at a total occupant load of 150 persons.
Report on Comments — Copyright, NFPA

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-334 Log #530 BLD-MEA FINAL ACTION: Reject

(Table 11.2.2.1)

KULIGOWSKI: As a personal vote, I am certainly in favor of wider stairs; however, I am not convinced that the numbers of occupants and the corresponding stair width are appropriate.

FRABLE: See my reasons stated in my negative comment on NFPA 5000-323. Based on those concerns, the appropriate action on this comment should have been “Reject”.

COMMITTEE STATEMENT:

KULIGOWSKI: As a personal vote, I am certainly in favor of wider stairs; however, I am not convinced that the numbers of occupants and the corresponding stair width are appropriate.

First, I am still unclear as to what these numbers are based on. There does not seem to be enough substantial evidence to support the increments of stair widths associated with the number of occupants served by the stairway, as listed in the original proposal by Pauls and the amended version by Latroph. I question how the occupant number and the corresponding stair width were decided upon. Pauls includes data on density of the U.S. population from 1960 to the recent year of 2000, however refers to people movement data on stairs only as recent as the mid 1980s. So, my concern reflects the fact that we do not have recent people movement data (especially on counterflow) to point to that clearly compares movement in many different sized staircases, so that the most appropriate stair size can be chosen to be included in the code.

Second, in the absence of appropriate research to support the increased width, it is not clear that the additional width is providing significant additional capacity. For example, since the committee chose not to increase door width commensurate with the increased stair width, discharge capacity at the bottom of these wider stairs may become the controlling factor rather than stair width.

Finally, the presentation of the data in the final proposed new section in Comment 101-46 is inconsistent. For new stairs serving less than 50 occupants, the minimum clear width excludes handrails while for wider stairs, the minimum clear width is measured between handrails. This can only lead to confusion. Regardless of width, the measurement should be consistent.

The table at the right provides a set of consistent values for either approach. Unfortunately, the proposed standard does not

Cumulative Capacity Between Full Width

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>Handrails</td>
<td>Full Width</td>
</tr>
<tr>
<td>&lt; 50</td>
<td>27</td>
<td>36 – 36</td>
</tr>
<tr>
<td>50 – 1999</td>
<td>36</td>
<td>43 – 45</td>
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<td>&gt; 1999</td>
<td>48</td>
<td>55 – 57</td>
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EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: Review this proposal for consistency with the action taken on 5000-781 by BLD-MER and to give consideration to Fixen’s explanation of negative with respect to the evacuation concepts of tall buildings so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See action on Comment 5000-323.

COMMITTEE STATEMENT: The committee action on Comment 5000-323 is noted on recognition that the extra width is needed where counterflow is expected (that is, where occupants are moving downward on a stair while emergency responders are moving upward on the stair at the same time).

The revised threshold (that is, the 2000 cumulative person criterion) for the provision was established in recognition that in buildings more than approximately 14 stories in height, emergency responders will be on site before all occupants have evacuated the building. Where a high-rise building does not use full evacuation, but - for example - practices staged evacuation, the extra stair width is needed to help assure safe counterflow in cases where the stairway is not able to go to a full evacuation mode in response to changing fire conditions.

The subject is related to counterflow as explained in the preceding paragraph. It is not occupancy specific. See action on Comment 5000-523 which rejects Proposal 5000-781. The ROP action by BLD-MER to exempt mercantile and business occupancies from the stair width requirement is unjustified.

In response to Fixen’s ballot comment, where a high-rise building does not use full evacuation, but - for example - practices staged evacuation, the extra stair width is needed to help assure safe counterflow in cases where it becomes necessary to go to a full evacuation mode in response to changing fire conditions.

The proposal notes in the substantiation (in the paragraph above the “more-conservative approach” table) “the fact that, for office buildings, actual cumulative loads have been much less,” — by at least 50 percent on average — than the traditional one person occupant load per 100 square feet of space.” Somehow in the substantiation this becomes a factor in considering even more conservative triggers for increased stair width. If anything, this fact indicated that there is already a built-in safety factor in the egress capacity for office buildings.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The submitter’s request is in direct conflict with the action taken on Comment 5000-323. The extra width is needed where counterflow is expected (that is, where occupants are moving downward on a stair while emergency responders are moving upward on the stair at the same time).

The revised threshold (that is, the 2000 cumulative person criterion) for the provision was established in recognition that in buildings more than approximately 14 stories in height, emergency responders will be on site before all occupants have evacuated the building. Where a high-rise building does not use full evacuation, but - for example - practices staged evacuation, the extra stair width is needed to help assure safe counterflow in cases where it becomes necessary to go to a full evacuation mode in response to changing fire conditions.

See also, in the action on Comment 5000-323, the revised language clarifying how the cumulative loads are to be calculated, and criteria explaining what proportion of the stairway needs to provide the increased width.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 20 Negative: 3 Abstain: 1

EXPLANATION OF NEGATIVE:

ELVOYE: First of all, the modifications made by the occupancy technical committees to comment 5000-323 et al subsequent to the MEA ROC meeting seem to have improved upon the text of the proposed new requirements for wider stairs in high-rise (or extremely high occupancy) buildings. Therefore, if wider stairs will be required to allow for sufficient (downward) egress capacity and (upward) counterflow, then the egress (ingress) doors really need to be increased in size to accommodate bidirectional flow. Should this comment not be accepted, then I would change by affirmative vote on Comments 5000-323, 5000-332, 5000-334 and 5000-335 to negative as I would not widen stairs without adequately sized doors.

FRABLE: See my Explanation of Negative on Comment 5000-323.

SUBMITTER: Lawrence G. Perry, ROMA International
EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-335 Log #495 BLD-MEA

COMMITTEE STATEMENT: In case where all occupants have evacuated the building. Where a high-rise building does not seem to have improved upon the text of the proposed new requirements for committees to comment 5000-323 et al subsequent to the MEA ROC meeting.

ELVOVE: First of all, the modifications made by the occupancy technical committees to comment 5000-323 et al subsequent to the MEA ROC meeting seem to have improved upon the text of the proposed new requirements for wider stairs in high-rise (or extremely high occupancy) buildings. Therefore, if wider stairs will be required to allow for sufficient (downward) egress capacity and (upward) counterflow, then the egress (ingress) doors really need to be increased in size to accommodate bidirectional flow. Should this comment not be accepted, then I would change by affirmative vote on Comments 5000-323, 5000-332, 5000-334 and 5000-335 to negative as I would widen stairs without adequately sized doors.

FIXEN: See my Explanation of Negative on Comment 5000-323.

FRABLE: See my reasons stated in my negative comment on NFPA 5000-323. Based on these concerns, the appropriate action on this comment should have been “Accept”.

KULIGOWSKI: As a personal vote, I am certainly in favor of wider stairs; however, I am not convinced that the numbers of occupants and the corresponding stair width are appropriate.

First, I am still unclear as to what these numbers are based on. There does not seem to be enough substantial evidence to support the increments of stair width associated with the number of occupants served by the stairway, as listed in the original proposal by Pauls and the amended version by Lathrop. I question how the occupant number and the corresponding stair width were decided on. Pauls includes data on obesity of the U.S. population from 1960 to the recent year of 2000, however refers to the people movement data on stairs only as recent as the mid-1980s. So, my concern reflects the fact that we do not have recent people movement data (especially on counterflow) to point to that clearly compares movement in many different sized staircases, so that the most appropriate stair size can be chosen to be included in the code.

Second, in the absence of appropriate research to support the increased width, it is not clear that the additional width is providing significant additional capacity. For example, since the committee chose not to increase door width commensurate with the added stair width, discharge capacity at the bottom of these wider stairs may become the controlling factor rather than stair width.

However, the presentation of the data in the final proposed new section in Comment 101-46 is inconsistent. For new stairs serving less than 50 occupants, the minimum clear width excludes handrails while for wider stairs, the minimum clear width is measured between handrails. This can only lead to confusion. Regardless of width, the measurement should be consistent. The table at the right provides a set of consistent values for either approach.

Unfortunately, the proposed standard does not

Cumulative Between Full Width
Capacity Handrails
< 50 27 36 – 36
50 – 1999 36 43 – 45
> 1999 48 5 5 – 57

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.
tripping hazard. In order to avoid a tripping hazard and to issue durability,
use marking stripes that are manufactured specifically for use on walking
surfaces and insure that they are applied in accordance with the manufacturer’s
installation instructions. While a carefully applied and consistently maintained
coating is acceptable, contrasting color or photoluminescent material integral
with the nosing is preferred because of its permanence. See also 11.1.6.4 and
11.2.2.3.3 for slip resistance uniformity requirements as well as prohibition of
projections on the treads.

SUBSTANTIATION: We wish to commend the committee for understanding
the need for adequately marking stair treads on exit stairs. While we fully
support the proposed regulations, we do not feel the appendix explanation is
consistent with Section 2.3.8.2 of the Manual of Style for NFPA technical
committee Documents which states “Caution and warning statements shall only
be permitted to be used within the mandatory text sections where a distinct
hazard to the user, building, property, exposures, and so forth exists.

We understand the concerns of the committee and feel there is a more
positive way in which to state the concern. We feel the attached new wording
addresses the concern in a more positive and appropriate manner.

Our industry has successfully manufactured safety tapes applied to walking
surfaces for many years. We use only industrial grade adhesive specifically
formulated for walking surfaces to insure that the tapes will not be displaced by
foot traffic. These tapes are specifically designed and manufactured for use
on walking surfaces. When installed in accordance with the manufacturer’s
installation instructions, they will not cause a tripping hazard.

Any safety devise not properly installed in accordance with the
manufacturer’s installation instructions can become a hazard. We do not outlaw
safety devices simply because we may have seen an improper installation.
That is why the authority having jurisdiction is responsible to see that all building
safety devices and components are installed in full accordance with the
manufacturer’s installation instructions.

We must also point out that the committee has no data to support the
statement “Tape should not be used as it is not durable under the scuffing from
users feet, and in coming loose, it creates a tripping hazard.” Such statements
by a fire safety organization, without documented substantiation, should be
reviewed by legal staff.

We wish to speak in support of this proposal. Removal of the proposed first
sentence of the appendix section will maintain the factual basis and enable us
to go forward in support of this worthwhile proposal.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: There is no consensus standard for marking strides
on walking surfaces. Installing one manufacturer’s product that manufacturer’s
instructions does not assure durability, wearability, or the
stay-in-place features needed. Such a specification is not enforceable.

Also, the submitters have misread the NFPA style manual. Caution and warning
statements generally do not belong in the body of a document; they belong in
the advisory notes. The style manual directs that such statements are to be
placed in the body of the document ONLY where a distinct hazard exists.
The technical committee is then established as the group to judge the hazard.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000
proposals and comments. This action emphasizes the unnecessary redundancy
of NFPA 5000 of established NFPA and International Code Council codes and
standards and is not supported by the National Association of Home Builders
(NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-337 Log #433 BLD-MEA

SUBMITTER: Jake Pauls, Jake Pauls Consulting Services

COMMENT ON PROPOSAL NO: 5000-531

RECOMMENDATION: Revise text as follows:
11.2.2.6.8 Where new contrasting marking is applied to stairs, such marking
shall comply with the following:
(1) The marking shall include a continuous strip as a coating on, or as a
material integral with, the full width width of the leading edge of each tread.
(2) The marking shall include a continuous strip as a coating on, or as a
material integral with the full width width of the leading edge of each
landing nosing.
(3) The marking strip width, measured horizontally from the leading vertical
edge of the nosing shall be consistent at all nosings.
(4) The marking strip width shall be 1 in. to 2 in. (25 mm to 51 mm)
11.2.2.6.9 Where new contrast marking is applied for stairway handrails,
it shall be applied, or be part of, at least the upper surface of the handrail, have
a minimum width of 1.5 in. (38 mm), and shall extend the full length of each
handrail. After marking, the handrail shall comply with 11.2.2.4.(C).
A.11.2.2.6.8 For stair nosing marking, surface-applied material, such as
adhesive backed tape and magnetic strips, should not be used as it is
durable under the users feet. In coming loose, it creates a
tripping hazard. While a carefully applied and consistently maintained coating
is acceptable, contrasting color or photoluminescent material integral with
the nosing is preferable because of its permanence. See also 11.1.6.4 and
11.2.2.3.3 for slip resistance uniformity requirements as well as prohibition of
projections on the treads. Guidance on the use of photoluminescent marking is
provided by ASTM 2030, Guide for Recommended Uses of Photoluminescent
(phosphorescent) Safety Markings. Additional marking, for example, at the
side boundaries of the stair, should be applied in accordance with the guidance
provided therein. If photoluminescent marking is also provided for handrails,
should be on at least the upper surface of the handrail and should extend the
full length of each handrail.
A.11.2.2.6.9 Guidance on the use of photoluminescent marking is provided
by ASTM 2030, Guide for Recommended Uses of Photoluminescent
(phosphorescent) Safety Markings, however, wall marking behind handrails is
not recommended as it fails to highlight the handrail and might even detract
from visually detecting the presence and location of the handrail. Generally,
coatings, and other applied markings, if used, should be durable for expected
usage especially at end terminations of the marking and at changes in stair
direction where usage is more extensive and hand forces larger.

SUBSTANTIATION: Editorially, spelling errors are corrected with the words
“width” and “photoluminescent.” (Twice in each case.)

More substantially, the annex note on handrail marking is too important not
to include a requirement rather than a recommendation. Handrail marking
is not scoped but merely provided with requirements that need to be met if
new handrail marking is used. For the safety and usability of the stairway,
the marking of handrails is of similar importance to that of nosing marking
and related criteria need to be imposed on minimum width, continuity and
on continued graspability of handrails generally. Guidance on durability is also
important, as is guidance on use of photoluminescent marking; hence the new
annex note.

Submission of this comment is partly based on work within a taskforce on
gress marking working on input to New York City requirements that will be
applicable to existing and new high-rise buildings; however no claim is made
that the comment is consistent with the recommendations of the Taskforce
which are not finalized as this comment is submitted.

COMMITTEE MEETING ACTION: Hold

COMMITTEE STATEMENT: The comment introduces a subject that has not
had public review via the Report on Proposals (ROP) and in accordance
with the Regulations Governing Committee Projects must be held for
processing as a proposal for the next revision cycle.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000
proposals and comments. This action emphasizes the unnecessary redundancy
of NFPA 5000 of established NFPA and International Code Council codes and
standards and is not supported by the National Association of Home Builders
(NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-337a Log #CC251 BLD-MEA

SUBMITTER: Technical Committee on Means of Egress

COMMENT ON PROPOSAL NO: 5000-567

RECOMMENDATION: Revise 11.2.3.12 as follows:
Standby power — A Type 60 / Class 2 / Level 2 EPSS for mechanical ventilation
equipment shall be provided in accordance with NFPA 110, Standard for
Emergency and Standby Power Systems, by an approved, self-contained
generator that is set to operate whenever there is a loss of power in the normal
household service. The generator shall be placed in a room having a minimum
1-hour fire resistance-rated separation from the remainder of the building.
The generator shall have a fuel supply not less than that which is adequate to
operate the equipment for 2 hours.

SUBSTANTIATION: Correlation with action on Life Safety Code Comment
101-68.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000
proposals and comments. This action emphasizes the unnecessary redundancy
of NFPA 5000 of established NFPA and International Code Council codes and
standards and is not supported by the National Association of Home Builders
(NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-338 Log #107 BLD-BSY

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-540

RECOMMENDATION: Review this proposal for consistency with any
additional criteria for such devices

SUBSTANTIATION: As above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: The committee finds that no action is
required by this committee.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFEE, HAYS, MCGUIRE,
RONDINELLI, SIEGEL, VAN BECELAERE
1) It is premature for the Code to adopt the proposed requirements. Until the MEA TC has an opportunity to review the yet-to-be-drafted standard from the just-formed ASTM E06.77 committee, for thoroughness and the level of safety provided, it is not possible to know what guidance or requirements need to be provided to the installer and/or AHJ to ensure that the overall building safety system operates as intended.

2) It is unknown whether any products or equipment that comply with the yet-to-be-drafted-standard will be available.

3) The proposal as submitted during the ROC stage was significantly revised from the version that was submitted during the ROP stage, by a task force meeting the night before the MEA TC voted on the matter. While the proposal may be ‘improved’ in the sense that the task force acknowledged many of the issues raised (both through written comments and verbally by the TC during the first day of the meeting), this revised proposal merits greater review so interested stakeholders can be reassured that the revisions adequately address the concerns raised and ensure that new potential problems have not been introduced through the revisions.

4) There is still much work to be done to better understand the behavioral factors introduced when additional ‘choices’ are offered to a building population under duress and in need of immediate evacuation. This topic alone merits consideration by an appropriate task force of human behavior and building safety experts.

5) The proposal does not offer any recommendations as to how visitors or the general public would be educated as to the procedures to follow in a building equipped with such equipment. Such education would be part of the evacuation plan made familiar to the regular daily occupants of an office or residential high rise, but this is not the only population at risk in this situation.

6) The proponents provide no substantiation to support the premise that supplemental evacuation systems will survive or remain operational or ‘safe’ to use under the conditions that might have compromised an internal evacuation system. Making internal evacuation systems (i.e., stairs) more remote from one another would likely accomplish the same effect as being attempted here without introducing many other uncertainties.

EXPANION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

DE VRIES: In accordance with Section 3-3 (e) of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process, I hereby abstain from voting on this comment based on my retention by the Safe Evacuation Coalition to represent their interests on the subject of escape devices and systems.

FA VRO: Please record me as abstaining on all issues relative to the “Supplemental Evacuation Equipment” on both the NFPA 101 and NFPA 5000 ballots. Not having been able to attend the meeting in San Diego, I am unfamiliar with the arguments made for and against the proposals and I am not at all familiar with the information that they were based on. I have seen in a recent CD-ROM and related material that was sent to me.

COMMENT ON AFFIRMATIVE: ELVOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal. I hereby propose a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot comment regarding Comment 5000-343.

5000-340a Log #CC601 BLD-DET FINAL ACTION: Accept (11.2.14)

SUBMITTER: Technical Committee on Detention and Correctional Occupancies

COMMENT ON PROPOSAL NO: 5000-544

RECOMMENDATION: Reject Proposal 5000-544 so as NOT to add a new 11.2.14 subsection on Escape Devices and Systems that can serve as components within the required means of egress.

SUBSTANTIATION: The BLD-MEA committee used an Accept in Principle action on Comment 5000-343 to achieve two things:

1) Not go forward with a new 11.2.14 subsection on Escape Devices and Systems that can serve as components within the required means of egress.

2) Create a new Section 11.13 on Supplemental Evacuation Devices that receive no credit as satisfying any means of egress provisions.

There is the possibility that the BLD-MEA meeting action might not pass
ROC ballot because some members are opposed to any mention of such devices (that is, they oppose item (2) above, favor item (1), but must vote on the comment as a whole). A failed ballot would leave the original ROP text for 11.2.14 subsection on Escape Devices and Systems is not to go forward. 

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 18

BALLOT RESULTS: Affirmative: 13

BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

COMMITTEE STATEMENT: See action on Comment 5000-343.

• There is no basic product standard. While an ASTM committee has been committee, despite direction from the TCC to do so.

DI PILLA: As mentioned in my earlier negative, it’s clear to me that this material is not ready to be inserted into a national consensus code. I was disappointed that neither of my key points were even remotely addressed by the committee, despite direction from the TCC to do so.

• There is no basic product standard. While an ASTM committee has been formed, it can (and usually does) take several years before a standard is completed.

• As an “interim measure” (which will likely be several years), the code text only allows “things to be done on both, usable guidance to AHJs who will be required to approve these devices.

• Taking into account environmental conditions, building loading, structure, and balance, adequacy of anchoring, and a host of other factors must be considered - and there is no methodology (nor sufficient research to date) to do so.

• Contrary to what has been argued, there are no technical authorities other than manufacturers for the AHJ to call upon for assistance.

These are fundamental requirements of placing provisions into the code. The committee has always required not only a standard, but a standard that has been obtained, distributed, discussed, and accepted prior to instituting language in the code specifying it. Here we are not even requiring a standard at all! I fear the code committee is acting prematurely - and setting up the potential for disaster.

In addition, the extent of operational/management control is essential for such a means of egress to be safe, to allow effective. These controls also have yet to be standardized, or even completely inventoried. There is also the potential for these devices to be used (or misused) for purposes other than “last resort” egress. This too remains unaddressed. Finally, the impact of these components on marking/signage, and related physical aspects of egress have not even been discussed, let alone established. Does the committee truly expect an AHJ to competently evaluate this myriad of issues, most of which have yet to be fully identified?

I believe that this proposal should not be accepted until: 1. a standard with a listing program has been established, 2. a methodology for assessing installation and maintenance has been developed, and 3. clear, minimum operational controls have been standardized.

In summary, there has not been nearly enough development on these devices (or controls established) to believe that placing them into buildings will provide a greater degree of safety than remaining in the building in the vast majority of cases. In fact, there is reason to believe that greater injury could occur from the use of these devices by building occupants that are 1. unfamiliar with their operation; 2. fearful of critical factors such as heights and enclosed places, and 3. in a panic mode.

SHULMAN: In regard to the remaining items, please see Shulman comments submitted with the ROP ballot under 5000-544.

In addition, based on the information received subsequent to submitting the above noted comments, the following supplements our comments for all of the above negative votes:

1) It is imperative for the Code to adopt the proposed requirements. Until the MEA TC has the opportunity to review the yet-to-be-drafted standard from the just-formed ASTM E06.77 committee, for thoroughness and the level of safety provided, it is not possible to know what guidance or requirements need to be provided to the installer and/or AHJ to ensure that the overall building safety system operates as intended.

2) It is unknown whether any products or equipment that comply with the yet-to-be-drafted-standard will be available.

3) The proposal as submitted during the ROC stage was significantly revised from that submitted during the ROP stage, by a task force meeting the night before the MEA TC voted on the matter. While the proposal may be ‘improved’ in that the task force is said to have made many of the changes proposed (both through written comments and verbally by the TC during the first day of the meeting), this revised proposal merits greater review so interested stakeholders can both assess whether the revisions adequately address the concerns raised and ensure that new potential problems have not been introduced through the revisions.

4) There is still much work to be done to better understand the behavioral factors introduced when additional ‘choices’ are offered to a building population under duress and an immediate escape alone merits consideration by an appropriate task force of human behavior and building safety experts.

5) The proposal does not offer any recommendations as to how visitors or the general public would be educated as to the procedures to follow in a building equipped with such equipment. Such education would be part of the evacuation plan made familiar to the regular daily occupants of an office or residential high rise, but this is not the only population at risk in this situation.

6) The proponents provide no substantiation to support the premise that an external evacuation system will survive or remain operational or ‘safe’ to use under the conditions that might have compromised an internal evacuation system. Making internal evacuation systems (i.e., stairs) more remote from one another would likely accomplish the same effect as being attempted here without introducing many other uncertainties.

STRULL: To require an escape device that is in excess of the required egress capacity and that requires persons to read instructions on its use in an emergency seems to be excessive and unnecessary. How many people will read the instructions prior to the need for its use? Why spend money on such devices? The money is better spent hardening the required and traditional means of egress that do not require a set of instructions.

FAVRO: Please record me as abstaining on all issues relative to the “Supplemental Evacuation Equipment” on both the NFPA 101 and NFPA 5000 ballots. Not having been able to attend the meeting in San Diego, I am unfamiliar with the arguments made for and against the proposals and I am not comfortable with the information that I have seen in a recent CD-ROM and related material that was sent to me.

COMMENT ON AFFIRMATIVE

ELVOYE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore provide a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should a ballot item be on this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot regarding Comment 5000-343.
secondary methods of egress. In parallel innovation by manufacturers around the world to develop secondary egress systems is yielding real results. For these solutions, it is essential that the NFPA, manufacturers, and integrators work closely together in each and every one, committing their strengths, capabilities, and resources. Because this is a new challenge to be served, the NFPA will be providing broad guidance for selection, installation, and use of external evacuation equipment. The detailed technical issues of suitability and safety should be addressed by product standards.

Evacuation Plans. The only way to ensure the complete safety of all of a building’s occupants in the event of a fire is by conducting a full-scale evacuation. At present, primary evacuation systems in most high-rise buildings are inadequate in this regard. In order to provide a timely, safe, and effective method of egress which in turn makes the essential task of evacuation problematic. Moreover, the challenging issues facing primary evacuation means are seemingly uncorrectable. In the event of a fire a building’s stairways are unusable to occupants due to structural damage from fire or smoke, and therefore can’t be used to ensure that building occupants will open doors to corridors and stairwells on lower floors. Fire and rescue crews repeat this action when they enter a burning building. These actions facilitate smoke and toxic gases to naturally diffuse into stairways and encourage victims to exit the building. Occupants on higher floors, therefore, become unable to use the stairways for egress due to their rapid contamination.

That being said, the Chicago Fire Department issues this statement of evacuation planning in High Rise Buildings. A building with a management that should develop a floor plan which will be posted in key locations throughout each floor. Additionally, each employee will be given the name of their Floor Leader to be kept in his/her assigned work area. Copies of Evacuation/Emergency evacuation procedures and the location of physically disabled personnel will be posted at each work station and at the lobby desk. Every employee and tenant will be orientated in the emergency procedure for the building and will be required to participate in drills. Copies of Fire and rescue crews repeat this action when they enter a burning building. These actions facilitate smoke and toxic gases to naturally diffuse into stairways and encourage victims to exit the building. Occupants on higher floors, therefore, become unable to use the stairways for egress due to their rapid contamination.

The point is that because primary evacuation plans are not always adequate, we can learn important lessons to help us shape secondary egress systems. Certainly secondary egress systems are not to replace primary systems, but to complement them. Any plan should specify, but not be limited to:

• The type of device or system and the location of the device. The role and authority of emergency response personnel with respect to the escape device or system.

• The person or persons authorized to direct the deployment of, and to operate, the escape device or system.

• The role of the escape device or system in the overall plan i.e., the method.

Certainly secondary egress systems are not to replace primary systems, but to complement them. Any plan should specify, but not be limited to:

In summary, there has not been nearly enough development on these devices (or controls established) to believe that placing them into buildings will provide a greater degree of safety than remaining in the building in the vast majority of cases. In fact, there is reason to believe that greater injury could occur from the use of these devices by building occupants that are 1. unfamiliar with their operation; 2. fearful of critical factors such as heights and enclosed places, and 3. in a panic mode.

SHULMAN: In regard to the remaining items, please see Shulman comments submitted with the ROP ballot under 5000-544.

In addition, based on the information received subsequent to submitting the above noted comments, the following supplements our comments for all of the above negative votes:

1) It is premature for the Code to adopt the proposed requirements. Until the MEA TC has an opportunity to review the yet-to-be-drafted standard from the just-formed ASTM E06.77 committee for thoroughness and the level of safety provided, it is not possible to know what guidance or requirements need to be provided to the installer and/or AHJ to ensure that the overall building safety system operates as intended.

2) It is unknown whether any products or equipment that comply with the yet-to-be-drafted standard will be available.

3) The proposal as submitted during the ROC stage was significantly revised from that submitted during the ROP stage, by a task force meeting the night before the meeting. Specific changes introduced at the ROC meeting, which I believe were not improved on the night before the proposal was submitted, were: 1. a standard of safety for “last resort” egress. This too remains unaddressed. Finally, the impact of these components on marking/signage, and related physical aspects of egress have not even been discussed, let alone established. Does the committee truly expect and fully understand what is required to fully identify last resort egress. This too remains unaddressed. Address, the impact of these components on marking/signage, and related physical aspects of egress have not even been discussed, let alone established. Does the committee truly expect and fully understand what is required to fully identify

4) There is still much work to be done to better understand the behavioral factors that introduce when attempting to evacuate: the time it takes to evacuate, the ability to adapt to population under duress and in need of immediate evacuation. This topic alone merits consideration by an appropriate task force of human behavior and building safety experts.

5) The proposal does not offer any recommendations as to how visitors or the general public would be educated as to the procedures to follow in a building equipped with such equipment. Such education would be part of the evacuation plan made familiar to the regular daily occupants of an office or residential high rise, but this is not the only population at risk in this situation.

6) The proponents provide no substantiation to support the premise that an external evacuation system will survive or remain operational or ‘safe’ to use under the conditions that might have compromised an internal evacuation system. It is my concern that a building owner or operator must remain in a panic mode.

BLANK: To require an escape device that is in excess of the required egress capacity and that requires persons to read instructions on its use in an emergency seems to be excessive and unnecessary. How many people will read the instructions prior to the need for its use? Why spend money on such devices? The money is better spent hardening the required and traditional methods of egress that do not require a set of instructions.

EXPLANTION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of the 5000 ballot of establishing International codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

DE VRIES: In accordance with Section 3-3 (e) of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process, I hereby abstain from voting on this comment based on my retention by the Safe Evacuation Coalition to represent their interests on the subject of escape devices and systems.

FAY: Please record me as abstaining on all issues relative to the “Supplemental Evacuation Equipment” on both the NFPA 101 and NFPA 5000 ballots. Not having been able to attend the meeting in San Diego, I am unfamiliar with the arguments made for and against the proposals and I am not comfortable making a vote with the information that I have seen in a recent CD-ROM and related material that was sent to me.

COMMENT ON AFFIRMATIVE

ELVOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore propose a minimum level of requirements for purposes other than “last resort” egress. This too remains unaddressed. Finally, the impact of these components on marking/signage, and related physical aspects of egress have not even been discussed, let alone established. Does the committee truly expect and fully understand what is required to fully identify
of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot comment regarding Comment 5000-343.

5000-343 Log #500 BLD-MEA FINAL ACTION: Accept in Principle (11.2.14 (New))

TCC Action: The Technical Correlating Committee (TCC) notes that it permits the action to go forward as it is in agreement with the explanation in Koffel's comment which follows: “Probably the deciding factor in voting affirmative on this comment was the result that would be achieved. The Code gives no credit or recognition to escape devices or systems in any other section (pending final action by other Technical Committees). The proposed new section merely provides a set of requirements should someone propose to install such equipment on a building. Therefore, I no longer see harm in providing this set of requirements in the Code and in fact I can rationalize a benefit. If the Code remains silent on the issue and in the absence of a product standard, building owners are free to install and use anything they might choose. At least by including this section, the Code now provides a minimum set of requirements for such optional equipment. In so doing, the Code may in fact be minimizing danger from fire by preventing the use of equipment that could be dangerous to the occupants of the building.”

SUBMITTER: David A. de Vries, Firetech Engineering / Rep. Safe Evacuation Coalition

COMMENT ON PROPOSAL NO: 5000-544

RECOMMENDATION: Revise text as follows:

11.2.14 Escape Devices and Systems

11.2.14.1 General. Where an escape device, group of devices, or system serves 10 or more persons in a single tenant space or coordinated group of multiple tenant spaces within a building or floor thereof, the escape device, group of devices, or system shall comply with permitted provided that the following criteria are met:

(1) Where permitted by Chapters 16 through 34:

(2) The role and authority of emergency response personnel with respect to the escape device or system.

(3) The person or persons authorized to direct the deployment of, and to operate, the escape device, group of devices or system.

A.11.2.14. The guiding principles that govern the acceptability of installing and using escape devices and systems, whether voluntary, or to satisfy NFPA 101, Standard for Healthcare Facilities, 2012 Edition, shall be as follows:

• The escape device, group of devices, or system shall be installed, inspected, tested, maintained and used in accordance with the manufacturer's instructions.

• The threshold for requiring compliance is now based on a coordinated installation to avoid the situation where several small tenants each buy a device only to find that the threshold of 10 persons has been exceeded. The intent is not to prohibit an individual resident or small business from buying whatever type of device is wanted.

• As revised by this comment, 11.2.14.1 does not impact the required means of egress. It is redundant to say so in the text, so criterion #4 has been stricken.

Substantiation: In the current edition of the Building Construction and Safety Code, no credit towards egress capacity or numbers of means of egress is given for escape devices as defined by Proposal 5000-180. But, there are additional provisions in the current edition that prevent the voluntary installation of escape devices or systems, either. Based on the action on this proposal and related proposals, there are now significant restrictions that in effect prohibit the voluntary installation of many escape devices or systems that comply with the intent of the proposal. This was not the intent of the original submitter, based on a review of the substantiation and Annex text with the original proposal, but is the reality of the code language as it was approved. This comment addresses the apparent conflict between intent and actuality by establishing criteria for the safe installation and use of such devices, if installed. Their installation remains voluntary, but if installed, then the Authority Having Jurisdiction needs to be involved in evaluating the proposal, but is the reality of the code language as it was approved. It does not include as escape device, group of devices, or system as a component of the means of egress or escape. Consequently, even if devices or systems are installed in compliance with 11.2.14.1, one hundred percent of the egress capacity and number of means of egress must still be provided in accordance with the requirements of Chapter 11 and the applicable occupancy chapter(s).

[Balance of A.11.2.14 unchanged]

SUBSTANTIATION: In the current edition of the Building Construction and Safety Code, no credit towards egress capacity or numbers of means of egress is given for escape devices as defined by Proposal 5000-180. But, there are additional provisions in the current edition that prevent the voluntary installation of escape devices or systems, either. Based on the action on this proposal and related proposals, there are now significant restrictions that in effect prohibit the voluntary installation of many escape devices or systems that comply with the intent of the proposal. This was not the intent of the original submitter, based on a review of the substantiation and Annex text with the original proposal, but is the reality of the code language as it was approved. This comment addresses the apparent conflict between intent and actuality by establishing criteria for the safe installation and use of such devices, if installed. Their installation remains voluntary, but if installed, then the Authority Having Jurisdiction needs to be involved in evaluating the proposal, but is the reality of the code language as it was approved. It does not include as escape device, group of devices, or system as a component of the means of egress or escape. Consequently, even if devices or systems are installed in compliance with 11.2.14.1, one hundred percent of the egress capacity and number of means of egress must still be provided in accordance with the requirements of Chapter 11 and the applicable occupancy chapter(s).

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[Balance of A.11.2.14 unchanged]
Do not go forward with the addition of a new Section 11.2.14. Rather, revise construction, at least two shall be remotely located from one another in accordance with 11.5.1.4.

(8) Where two or more escape devices or systems are installed in new operations and procedures for use.

(9) Where two or more escape devices or systems are installed in existing buildings, at least two shall be remotely located from one another in accordance with 11.5.1.4.

The guiding principles that govern the acceptability of installing and using escape devices and systems are specified in the text. In granting approval for a specific device or system, the authority having jurisdiction may consider, among other things, listing by a nationally recognized testing laboratory, where testing criteria exist for a particular type of device or system. The approval process may also incorporate a detailed review of the proposed device or system and its installation plan by a professional engineer experienced in fire and life safety systems and procedures. Regardless of who, does the review, it should anticipate special considerations such as the capacity of the device or system, the reliability of equipment under adverse weather conditions, exposure to fire, structural loading, availability of emergency lighting, human behavior and other associated elements. The review should also consider the probable evacuation times, such as capability of occupants, availability and capability of evacuation equipment; hazards of use in the building, protective features in the building, foreseeable events that would require use of the evacuation equipment, and the building’s geometry should be considered.

Some devices or systems, such as parachutes, helium balloons, helicopters, helicopter-suspended platforms and vertical take-off and landing craft should not be considered as meeting the criteria specified in 11.3.1.4. Escape devices and systems formed as a natural part of the building’s construction, as in a window or external wall, may be used if the window or external wall is opened. However, the window or external wall must be operable. This option may be acceptable when controlled escape systems are not feasible or when other options in the building are not available. This option may be acceptable while it is in use for escape.

Where the design of the building does not provide exterior doors or operable windows and a window must be broken to use the device or system, consideration needs to be given to the probable effect of that action, such as shoring the emergency response personnel, and equipment below with sharp pieces of glass. In such a situation, to obtain approval it may be appropriate to require tempered safety glass on windows that must be broken to deploy the escape device or access the system. Once the window has been broken out, it is desirable to have a backup plan in place to minimize stack effects and potential for falls, which may be accomplished by providing a secondary, operable window.

Because the variety of devices, systems and situations is extensive, no single set of requirements can cover all contingencies for proper use. Consequently, where the evacuation device or system is intended to serve 10 or more persons, a specific device or system must be approved prior to installation. Such an approval would constitute an escape system.

The intended purpose of Fire Service personnel during a fire incident is to effectuate evacuation. This action may be required, for example, when a window washer who uses a window to enter a building and then uses the window to leave the building has not been trained in its use. In situations such as this, an escape device or system must be approved prior to installation. Approval should be based on the capacity of the device or system to evacuate the persons who need to use the escape device or system. Approval will be based on the capacity of the device or system to evacuate the persons who need to use the escape device or system.

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EXPLANATION OF NEGATIVE:

DI PILLA: As mentioned in my earlier negative, it’s clear to me that this material is not ready to be inserted into a national consensus code. I was disappointed that neither of my key points were even remotely addressed by the committee, despite direction from the TCC to do so.

• There is no basic product standard. While an ASTM committee has been formed, it can (and usually does) take several years before a standard is completed.

• As an “interim measure” (which will likely be several years), the code text offers only a series of “things to consider,” providing no actual, usable guidance to AHJs who will be required to approve these devices.

• Taking into account environmental conditions, building loading, structure, and balance, adequacy of anchoring, and a host of other factors must be considered - and there is no methodology (nor sufficient research to date) to do so.

• Contrary to what has been argued, there are no technical authorities other than manufacturers for the AHJ to call upon for assistance.

These are fundamental requirements of placing provisions into the code. The committee has always required not only a standard, but a standard that has been used and tested extensively by the building industry prior to instigating passage in the code specifying it. Here we are not even requiring a standard at all! I fear that the committee is acting prematurely - and setting up the potential for disaster.

In addition, the extent of operational/management control is essential for such a means of egress to be safe; let alone effective. These controls also have yet to be standardized, or even completely inventoried. There is also the potential for these devices to be used (or misused) for purposes other than “last resort” egress. This too remains unaddressed. Finally, the impact of these controls on the evacuation process and related aspects of egress were not even been discussed, let alone established. Does the committee truly expect an AHJ to competently evaluate this myriad of issues, most of which have yet to be fully identified?

I believe that this proposal should not be accepted until: 1. a standard with a listing process has been established, 2. a methodology for assessing installation and maintenance has been developed, and 3. clear, minimum operational controls have been standardized.

In summary, there has not been nearly enough development on these devices (or controls established) to believe that placing them into buildings will provide a greater level of safety than remaining in the building in the vast majority of cases. In fact, there is reason to believe that greater injury could occur from the use of these devices by building occupants that are 1. unfamiliar with their operation; 2. fearful of critical factors such as heights and enclosed places, and 3. in a panic mode.

SHULMAN: In regard to the remaining items, please see Shulman comments submitted with the ROP ballot under 5000-544.

In addition, based on the information received subsequent to submitting the above noted comments, the following supplements our comments for all of the above negative votes:

1) It is premature for the Code to adopt the proposed requirements. Until the MEA TC has an opportunity to review the yet-to-be-drafted standard from the just-formed ASTM E06.77 committee, for thoroughness and the level of safety provided, it is not possible to know what guidance or requirements need to be provided to the installer and/or AHJ to ensure that the overall building safety system is adequate.

2) It is unknown whether any products or equipment that comply with the yet-to-be-drafted-standard will be available.

3) The proposal as submitted during the ROC stage was significantly revised from the submission to the ROP stage. A task force was formed before the MEA TC voted on the matter. While the proposal may be ‘improved’ in the sense that the task force acknowledged many of the issues raised (both through written comments and verbally by the TC during the first day of the meeting), this revised proposal merits greater review so interested stakeholders can both assess whether the revisions adequately address the concerns raised and ensure that new potential problems have not been introduced through the revisions.

4) There is still much work to be done to better understand the behavioral factors introduced when additional ‘choices’ are offered to a building population as compared to the need of immediate evacuation. This topic alone merits consideration by an appropriate task force of human behavior and building safety experts.

5) The proposal does not offer any recommendations as to how visitors or the general public would be educated as to the procedures to follow in a building equipped with such equipment. Such education would be part of the evacuation plan made familiar to the regular daily occupants of an office or residential high rise, but this is not the only population at risk in this situation.

6) The proponents provide no substantiation to support the premise that an external evacuation system will survive or remain operational or ‘safe’ to use under the conditions that might have compromised an internal evacuation system. Making internal evacuation systems (i.e., stairs) more remote from one another would likely accomplish the same effect as being attempted here without introducing many other uncertainties.

STRULL: To require an escape device that is in excess of the required egress capacity and that requires persons to read instructions on its use in an emergency seems to be excessive and unnecessary. How many people will read the instructions prior to the need for its use? Why spend money on such devices? The money is better spent hardening the required and traditional means of egress that do not require a set of instructions.

EXPLANATION OF ABSTENTION:

DI PILLA: I believe that NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

In view of the Means of Egress Technical Committee, I note that in taking the action that they did at the ROC meeting, the Committee did not find that there was sufficient basis at this time for recognizing escape devices and systems as part of the means of egress, but did recognize value in it as supplemental equipment.

FAVRO: Please record me as abstaining on all issues relative to the “Supplemental Egress Equipment” on both the NFPA 101 and NFPA 5000 ballots. Not having been able to attend the meeting in San Diego, I am unfamiliar with the arguments made for and against the proposals and I am not comfortable with the information that I have seen in a recent CD-ROM and related material that was sent to me.

COMMENT ON AFFIRMATIVE

ELVOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore on a near minimum level of critical aspects, but the proposal as revised still seems to require a “last resort” egress. This too remains unaddressed. Finally, the impact of these controls on the evacuation process and related aspects of egress were not even been discussed, let alone established. Does the committee truly expect an AHJ to competently evaluate this myriad of issues, most of which have yet to be fully identified?

I believe that this proposal should not be accepted until: 1. a standard with a listing process has been established, 2. a methodology for assessing installation and maintenance has been developed, and 3. clear, minimum operational controls have been standardized.

In summary, there has not been nearly enough development on these devices (or controls established) to believe that placing them into buildings will provide a greater level of safety than remaining in the building in the vast majority of cases. In fact, there is reason to believe that greater injury could occur from the use of these devices by building occupants that are 1. unfamiliar with their operation; 2. fearful of critical factors such as heights and enclosed places, and 3. in a panic mode.

SHULMAN: In regard to the remaining items, please see Shulman comments submitted with the ROP ballot under 5000-544.

In addition, based on the information received subsequent to submitting the above noted comments, the following supplements our comments for all of the above affirmative votes:

1) It is premature for the Code to adopt the proposed requirements. Until the MEA TC has an opportunity to review the yet-to-be-drafted standard from the just-formed ASTM E06.77 committee, for thoroughness and the level of safety provided, it is not possible to know what guidance or requirements need to be provided to the installer and/or AHJ to ensure that the overall building safety system is adequate.

2) It is unknown whether any products or equipment that comply with the yet-to-be-drafted-standard will be available.

3) The proposal as submitted during the ROC stage was significantly revised from the submission to the ROP stage. A task force was formed before the MEA TC voted on the matter. While the proposal may be ‘improved’ in the sense that the task force acknowledged many of the issues raised (both through written comments and verbally by the TC during the first day of the meeting), this revised proposal merits greater review so interested stakeholders can both assess whether the revisions adequately address the concerns raised and ensure that new potential problems have not been introduced through the revisions.

4) There is still much work to be done to better understand the behavioral factors introduced when additional ‘choices’ are offered to a building population as compared to the need of immediate evacuation. This topic alone merits consideration by an appropriate task force of human behavior and building safety experts.

5) The proposal does not offer any recommendations as to how visitors or the general public would be educated as to the procedures to follow in a building equipped with such equipment. Such education would be part of the evacuation plan made familiar to the regular daily occupants of an office or residential high rise, but this is not the only population at risk in this situation.

6) The proponents provide no substantiation to support the premise that an external evacuation system will survive or remain operational or ‘safe’ to use under the conditions that might have compromised an internal evacuation system. Making internal evacuation systems (i.e., stairs) more remote from one another would likely accomplish the same effect as being attempted here without introducing many other uncertainties.

STRULL: To require an escape device that is in excess of the required egress capacity and that requires persons to read instructions on its use in an emergency seems to be excessive and unnecessary. How many people will read the instructions prior to the need for its use? Why spend money on such devices? The money is better spent hardening the required and traditional means of egress that do not require a set of instructions.

GUEST: I am voting to support this proposal. I commend the committee for soliciting public comment and then modifying their proposal to address the concerns raised in the public comments. In carefully reading all of the comments, I believe the committee has addressed all issues raised and developed good language to provide rules that must be followed if supplemental evacuation equipment is used with approval of the AHJ.

Major issues addressed include:

• A device approval process
• Safety of use of such device
• Maintenance and testing of such device
• The need for an evacuation plan and the role of the device in the overall evacuation plan
• Training of personnel used for deployment
• Ease of use
• The role and authority of emergency response personnel
• The code section does not authorize use of the devices since a listing organization has not been established for such devices to date, but allow the AHJ to authorize use once such listing is available and encourages the development of such a process.

Because primary evacuation plans are not always adequate, we can learn important lessons to help shape secondary egress systems. The secondary egress systems are not to replace primary systems, but to complement them.

I believe NFPA’s support of the development of such devices and the testing thereof, is a big step to help solve the egress problems often encountered in major disasters. Who better than the code professionals and diversely experienced engineers, code officials, etc. in NFPA to help guide the development and therefore become part of the process.

KOFFEL: I have given considerable consideration to this issue since the Committee’s meeting. My first concern with accepting this Public Comment is the precedence that may be set by providing a set of requirements for a device or system that is not given any credit by the Code nor is it required or recognized elsewhere in the Code. However, there are other sections of the Code that regulate optional devices. My second concern is the fact that there does not currently exist a product standard for this equipment. During the Committee meeting we heard comments regarding which should come first (the product standard or the code change) and how the various interested organizations are watching what each other is doing.
5000-344 Log #528 BLD-MEA  FINAL ACTION: Accept in Principle (11.2.14.1)

SUBMITTER: Edward Klinger, Ozonelink Inc.

COMMENT ON PROPOSAL NO: 5000-544

RECOMMENDATION: Delete: Where the building served is 20 or more stories in height.

Delete: Capacity to evacuate not less than all the occupants of the 10 contiguous floors with the highest occupant load in 30 minutes from the system’s deployment.

SUBSTANTIATION: Both of these comments are too restricting and limiting for what is to be accomplished. Secondary methods of egress are designed to assist and support the primary methods. Secondary methods should only be used when the primary methods cannot be. Therefore, it is too restrictive and unnecessary to specify when and how many occupants should be able to use these methods and that amount of time as they are a last resort. If a fire breaks out on a floor, and one cannot get out into the hallway to the stairs, a rapid secondary method of escape is essential. Even if the fire ladders could reach – sometimes it may take too long to have them set up – sometimes it is too little, too late.

COMMITTEE MEETING ACTION: Accept in Principle

See action on Comment 5000-343.

COMMITTEE STATEMENT: The gist of the submitter’s comment was incorporated into the action on Comment 5000-343.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 19 Negative: 2 Abstain: 3

EXPLANATION OF NEGATIVE:

SHULMAN: In regard to the remaining items, please see Shulman comments submitted with the ROP ballot under 5000-544.

In addition, based on the information received subsequent to submitting the above ballot comments, the following supplements our comments for all of the above negative votes:

1) It is premature for the Code to adopt the proposed requirements. Until the MEA TC has an opportunity to review the yet-to-be-drafted standard from the just-formed subcommittee, for completeness and the level of safety provided, it is not possible to know what guidance or requirements need to be provided to the installer and/or AHJ to ensure that the overall building safety system operates as intended.

2) It is uncertain whether any products or equipment that comply with the yet-to-be-drafted standard will be available.

3) The proposal as submitted during the ROC stage was significantly revised from that submitted during the ROP stage, by a task force meeting the night before the MEA TC voted on the matter. While the proposal may be ‘improved’ in the sense that the task force acknowledged many of the issues raised (both through written comments and verbally by the TC during the first ballot meeting), this revised proposal merits greater review so interested stakeholders can both assess whether the revisions adequately address the concerns raised and ensure that new potential problems have not been introduced through the revisions.

4) There is still much work to be done to better understand the behavioral factors introduced when additional ‘choices’ are offered to a building population under duress and in need of immediate evacuation. This topic alone merits consideration by an appropriate task force of human behavior and building safety experts.

5) The proposal does not offer any recommendations as to how visitors or the general public would be educated as to the procedures to follow in a building equipped with such equipment. Such education would be part of the evacuation plan made familiar to the regular daily occupants of an office or residential high rise, but this is not the only population at risk in this situation.

6) The proponents provide no substantiation to support the premise that an external evacuation system will survive or remain operational or ‘safe’ to use under the conditions that might have compromised an internal evacuation system. Making internal evacuation systems (i.e., stairs) more remote from one another would likely accomplish the same effect as being attempted here without introducing many other uncertainties.

ELVOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore provide a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 regarding supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot comment regarding Comment 5000-343.

5000-345 Log #527 BLD-MEA  FINAL ACTION: Accept in Principle (11.2.14.3)

SUBMITTER: Edward Klinger, Ozonelink Inc.

COMMENT ON PROPOSAL NO: 5000-544

RECOMMENDATION: Add new text to read as follows:

Evacuation Plan: The evacuation plan shall specify, but shall not be limited to the following:

1) The role of the escape device
2) The role and authority of emergency response personnel with respect to the escape device or system
3) The person or persons authorized to direct the deployment of, and to use the escape device, group of escape devices or system

SUBSTANTIATION: The only way to ensure the safety of all of a building’s occupants in the event of a fire is by conducting a full-scale evacuation. At present, primary evacuation systems in most high-rise buildings are inadequate in that they fail to provide 100 percent of the occupants with a timely, safe, and effective method of egress which in turn makes the essential task of evacuation problematic. Moreover, the challenging issues facing primary evacuation methods are seemingly uncollectable. In the event of a fire a building’s passenger elevators are automatically returned to its main level and shut down to await reactivation by firefighters rendering elevators unusable for evacuation. A building’s design according to the evacuation needs of its respective floor populations rather than the evacuation needs of the entire building and are therefore incapable to handle inevitable congestion associated with the cumulative effect of fleeting occupants. By inhibiting occupant egress and firefighter ingress, congested stairways increase the threat of injury and death.

Additionally, the Stack Effect and the Breaking-of-the-Seal Effect cause smoke and toxic gases to be carried upward and throughout a building. The Stack Effect refers to a natural air draft which causes the upper floors to become contaminated with smoke first, and then proceeding downward, contaminating the subsequent floors back down to the fire floor. Even in buildings that are compartmentalized to contain the spread of smoke and fire, the stairwells can quickly become the most dangerous place for occupants to be due to the Breaking-of-the-Seal Effect. Unavoidably, in order to evacuate a building, occupants will open doors to corridors and stairwells on lower floors. Fire and rescue crews repeat this action when they enter a burning building. These actions facilitate smoke and toxic gases to naturally diffuse into...
EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

DE VRIES: In accordance with Section 3-3 (e) of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process, I hereby abstain from voting on this comment based on my retention by the Safe Evacuation Coalition to represent their interests on the subject of escape devices and systems.

FAVOR: Please record me as abstaining on all issues relative to the “Supplemental Evacuation Equipment” on both the NFPA 101 and NFPA 5000 ballots. Not having been able to attend the meeting in San Diego, I am unfamiliar with the arguments made for and against the proposals and I am not comfortable with the information that I have seen in a recent CD-ROM and related material that was sent to me.

COMMENT ON AFFIRMATIVE

ELYOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore provide a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot comment regarding Comment 5000-343.

5000-346 Log #582 BLD-MEA

FINAL ACTION: Reject (11.3.1.1)

TCC Action: The Technical Correlating Committee (TCC) notes the formation of a task group to study issue of redundancy and surplus capacity of exits for the next revision cycle of NFPA 5000.

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-546

RECOMMENDATION: Reconsider.

SUBSTANTIATION: Fundamental Concepts:

1) The total capacity of the means of egress for any story, balcony, tier or other occupied space shall be sufficient for the occupant load there. 11.2.1.1

2) Two means of egress, as a minimum, shall be provided in every building or structure, section, and area where size, occupancy, and arrangement endanger occupants attempting to use a single means of egress that is blocked by fire or smoke. 4.4.1.4

3) Means of egress are not required to be sized equally. Rejection of 5000-553 Log #577

4) Means of egress capacities are not required to be balanced. Rejection of 5000-546 Log #576

5) When one exit is blocked by fire, means of egress capacity may be less than 100% of the Fire Load.

The only time that means of egress capacity is in compliance with Section 11.3.1.1 is in the absence of fire. As requested by the technical committee, the following analysis and summary chart is enclosed. Code minimum conditions that were applied.

1) Minimum clear widths: 36 inches for doors; 44 inches for stairs. Stair model shown (more restrictive)

2) Minimum number of exits per 7.4.1.2

Beyond two minimum width means of egress, any additional required egress width is applied to only one exit. This is the exit which is presumed blocked in a fire emergency. Without balanced sizing of the means of egress, the deficiency grows with increasing occupancy until partially relieved at the minimum number of exits requirement. In the worst case, when the occupant load approaches 499 and later 999, the resultant deficiency reaches 71%. In other words, at those two occupant loads, the remaining egress capacity, if the large imbalanced exit is lost, will be only 29%. Increasing minimum required widths does not have as great an impact as does increasing the minimum number of exits.

5000-148
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Contrary to the technical committees’ statement:
1- Analysis of the data shows that small spaces are not affected, due to the minimum width requirements.
2- 2nd, 3rd, and 4th exits will not in combination, provide required capacity. However, additional exits, above minimum number, will provide required capacity. The impact on larger spaces is usually mitigated by the presence of extra exits provided to meet travel distance requirements.
3- This is not an overdesign. This is a correction to prevent an undersign which is made possible by the code’s silence on imbalance and distribution.
4- Historical data does not change the fact that the code does not prevent a deficiency as great as 71% from occurring.

This proposal, coinciding with 5000-546 Log #576, corrects the numerical exiting deficiencies created by code permitted imbalanced egress systems. While the reduced minimum number of exits proposal greatly reduces this inherent flaw in the code, this proposal eliminates the flaw by establishing minimum width on the basis of all related code factors. An additional proposal would change the minimum number of exits thresholds.

Change: 11.4.1.2 The number of means of egress from any story or portion thereof, other than for existing buildings as permitted in Chapter xx through Chap ox’s, shall be as follows:
1) Occupant load more than 300 500 but not more than 600 1000 – not less than 3
2) Occupant load more than 600 1000 but not more than 900 – not less than 4
3) Occupant load more than 900 – not less than 5
At these thresholds, as the analysis shows, the potential underdesign is minimized.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The proposed requirement for 100 percent redundancy in a two exit building is too stringent and too expensive to implement as the only solution to the problem the submitter raised. The subject needs additional study. For example, maybe a sliding scale needs to developed so that when there are only 2 exits, the loss of one must leave available 50 percent of the egress capacity; with 3 exits, the loss of one exit must leave available 70 percent of the egress capacity.
The chair of the Means of Egress Technical Committee has formed a task group to address the subject for the next revision cycle. The proponent, Mr. Kapalczynski, will be invited to join the task group. Other members include Jim Lathrop-Chair, Larry Brown, and Joe Vesterst. This is being reported here so that it becomes part of the official record of the committee action.

NUMBER ELIGIBLE TO VOTE: 24 BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

Table 11.3.1.2 Occupant Load Factor

<table>
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<tr>
<th>Use</th>
<th>ft² (per person)</th>
<th>m² (per person)</th>
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<tr>
<td>Storage Use (other than mercantile storerooms)</td>
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<td>NA</td>
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<tr>
<td>In storage occupancies</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>In mercantile occupancies</td>
<td>300</td>
<td>27.9</td>
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<tr>
<td>In other than storage and mercantile occupancies</td>
<td>500</td>
<td>46.5</td>
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</table>

COMMITTEE MEETING ACTION: Accept in Principle

The committee action preserves the staus quo for storage occupancies which per 30.1.6 and the corresponding “NA” notes in Table 11.3.1.2 do not use an occupant load factor to establish occupant load. Rather, occupant load is established as the maximum probable population of the storage space. The committee action also retains the 300 ft² occupant load factor currently specified under mercantile use for storage areas.

The 500 ft² occupant load factor was developed for storage uses in other than storage and mercantile occupancies. Research at the University of Maryland reported that the 100 ft² factor for business occupancies is overly conservative. A typical business occupancy is occupied at somewhere between 250-300 ft² per person. Thus, the 300 ft² factor for mercantile storerooms is too conservative for storage uses in other than mercantile and storage occupancies. The 500 ft² value represents the committee’s best judgment.

An occupant load factor for storage uses in other than storage and mercantile occupancies is needed for application of numerous code requirements. Also, occupancies other than storage occupancies need an occupant load factor for storage use spaces so as to be able to piece-together a realistic occupant load for the entire building. The Code currently provides the occupant load factor needed for the various uses within a building, except for storage uses.

5000-549 Log #581 BLD-MEA FINAL ACTION: Reject

TCC Action: The Technical Correlating Committee (TCC) notes the formation of a task group to study issue of redundancy and surplus capacity of exits for the next revision cycle of NFPA 5000. The topic of balanced distribution of egress will also be considered by the task group.

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-553

RECOMMENDATION: Reconsider.

SUBSTANTIATION: Fundamental Concepts:
1) The total capacity of the means of egress for any story, balcony, tier or other occupied space shall be sufficient for the occupant load thereof. 11.3.1.4
2) Two means of egress, at a minimum, shall be provided in every building or structure, section, and area where size, occupancy, and arrangement endanger occupants attempting to use a single means of egress that is blocked by fire or smoke. 4.1.4.3
3) Means of egress are not required to be sized equally. Rejection of 5000-553 Log #577
4) Means of egress capacities are not required to be balanced. Rejection of 5000-546 Log #576
5) When one exit is blocked by fire, means of egress capacity may be less than 100% of occupant load.

The only time that means of egress capacity is in compliance with Section 11.3.1.1 is in the absence of fire. As requested by the technical committee, the following analysis and summary chart is enclosed. Code minimum conditions that were applied:
1) Minimum clear widths: 36 inches for doors; 44 inches for stairs. Stair model shown (more restrictive)
2) Minimum number of exits per 7.4.1.2

Beyond two minimum width means of egress, any additional required egress width is applied to only one exit. This is the exit which is presumed blocked in a fire emergency. Without balanced sizing of the means of egress, the deficiency grows with increasing occupancy until partially relieved at the minimum number of exits requirement. In the worst case, but improbable condition, when the occupant load approaches 499 and later 999, the resultant deficiency reaches 71%. In other words, at those two occupant loads, the remaining exit capacity, if the large imbalanced exit is lost, will be only 29%. Increasing minimum required widths does not have as great an impact as does increasing the minimum number of exits.
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<th>Occupant Load</th>
<th>Vertical Component Required Exit Width</th>
<th>Exiting Deficiency With One Vertical Exit Unusable</th>
<th>1 Additional Exit</th>
<th>2 Additional Exits</th>
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COMMITTEE STATEMENT: The proposal accurately captures the essence of the Formal Interpretation processed by the Means of Egress Committee.

SUBMITTER: Technical Committee on Building Code

COMMENT ON AFFIRMATIVE

DE VRIES: The submitter of the original proposal requested exempting utility chases from the means of egress requirements and the committee appropriately rejected that action as stated in the committee substantiation, although there remains ambiguity as to what means of egress requirement apply, or should apply, to normally unoccupied building spaces (attics, utility chases, crawl spaces, etc.). These spaces seem to fall into a crack between those Permit-Required Confined Spaces regulated by OSHA and covered by ANSI Z117.1, and "any point in a building or structure ..." covered by the Building Construction and Safety Code. This subject should be addressed in future editions of the Code.

RECOMMENDATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

PROPOSAL NO: 5000-350 Log #111 BLD-MEA

REVIEW the exemption for normally unoccupied spaces.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE STATEMENT: Utility chases are not defined, yet they might encompass an entire floor or interstitial space. Utility chases, if large, do need means of egress, including a need for two means of egress. The provisions of Section 11.12 capture this concept and offer as much leniency as should be afforded such spaces.

What are these other codes addressed in the proposed annex text? How do they assure safe egress? What are the section numbers of the OSHA provisions that assures safe egress from such spaces?

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

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NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE STATEMENT: Utility chases are not defined, yet they might encompass an entire floor or interstitial space. Utility chases, if large, do need means of egress, including a need for two means of egress. The provisions of Section 11.12 capture this concept and offer as much leniency as should be afforded such spaces.

What are these other codes addressed in the proposed annex text? How do they assure safe egress? What are the section numbers of the OSHA provisions that assure safe egress from such spaces?

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

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What are these other codes addressed in the proposed annex text? How do they assure safe egress? What are the section numbers of the OSHA provisions that assure safe egress from such spaces?
elevators for egress of able-bodied individuals at a level equivalent to the use of stairs. it therefore seems additional provisions for the safety of occupants unable to navigate stairs and therefore having to use elevators should be in place. The installation of automatic sprinklers does not eliminate smoke in fires or prevent smoke spread to other floors via elevator shafts. No empirical data was presented in advancing the proposed change in code language that makes multi-story fire escape less safe for occupants with mobility impairments.

Isolation of the hoistway from a fire is the most reliable method of keeping fire and smoke products out of the hoistway shaft where it can spread smoke to other floors. Passage of smoke through the elevator lobby protection or temporary barriers directly in front of elevator doors can extend the amount of time before occupants are at risk from an active fire and allow for extended use of elevators for rescue and fire department staging of personnel and equipment. Isolation of the hoistway with or without the presence of sprinklers is a key to the safety of the mobility impaired.

In a project funded by the National Institute of Standards and Technology (Klote: Analysis of the Life Safety Consequences of Smoke Migration Through Elevator Shafts, ASME 2003) the hazard to life due to smoke migration through elevator hoistways and the effectiveness of methods to reduce that hazard was investigated. The resulting findings ranging from 6 to 58 stories in height. Both fully developed room fire and fully developed floor fires were evaluated with all but two scenarios placing originating fire on the second floor. Scenarios in the study examined both open and enclosed elevator lobbies and the time that it took smoke obstruction and untenable conditions to occur on the top floor of a 10-story building resulted in the conclusion that “the leakage area of the elevator doors is the primary factor in allowing smoke to migrate to upper floors in a building. If the leakage area of the elevator doors is controlled to 120 square feet, smoke migration is reduced by 50 percent.”

In an earlier study (J.J. Beitel, Weakelen, Beyler - Analysis of Smoke Movement in a Building via Elevator Shafts, Smoke Safety Council, 2000) it was shown that the leakage area of the elevator doors is the primary factory in smoke movement to higher floors in buildings. Modeling using CONTAM96 for a 10-story building resulted in the conclusion that “the leakage area of the elevator doors is the primary factor in allowing smoke to migrate to upper floors in a building. If the leakage area of the elevator doors is controlled to 120 square feet, smoke migration is reduced by 50 percent.”

In a study (Klote and J.A. Milke, 2002) the resulting air movement inside of building shafts, sometimes called chimney effect, is now most commonly known as stack effect. For highrise buildings in warm climates with air conditioned environments a downward flow of air can occur and is labeled reverse stack effect. This stack effect pressure differentials published in the ASHRAE manual range from 0.07 in. H 2 O at 30 ft to 0.7 in. H 2 O at 300 ft. Additionally, a 15 mph wind perpendicular to a building can result in a wind effect pressure differential from the windward side to leeward side of 0.12 in. H 2 O. When smoke is introduced into a hoistway the elevated temperature of the smoke increases stack effect. Reverse stack effect (buildings cooler inside than the outside temperature) is decreased when smoke enters a shaft. The change does not address how stack effect in a building will be impacted by the installation of automatic sprinklers.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See action on Comment 5000-351.

The submitter has not adequately substantiated why the Code should be changed technically so as to become more stringent. The wording of 11.5.4 is based on language in the Life Safety Code. The Formal Interpretation (FI) explains the formatting in NFPA 101, which was copied into NFPA 5000, is not user friendly. The change is not technical, but rather a clarification. The average user would go from 11.5.4.7 to 11.5.4.5 to 11.2.12.2.4 without stopping at 11.2.12.2(2) and its exception to learn that the provisions of 11.2.12.2 do not apply to sprinklered buildings. Thus, the FI repairs the roadmap so the user can better navigate through Chapter 11. Proposal 5000-562a does not make a technical change.
provide a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot comment regarding Comment 5000-343.

5000-355 Log #113 BLD-MEA FINAL ACTION: Accept in Principle (11.9.1.1 (6) (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-565

RECOMMENDATION: Give consideration to Shulman’s and Versteeg’s explanation of negative and Koffel’s and Pauls’ comment on affirmative so as to make any needed changes. Further correlation based on subsequent action via the public comments on Proposal 5000-544 should also be considered.

SUBSTANTIATION:

COMMENT COMMITTEE MEETING ACTION: Accept in Principle

Reject Proposal 5000-565 so as NOT to add a new item (6) to 11.9.1.1 on the subject of escape devices.

COMMENT STATEMENT: The supplemental evacuation equipment will not receive credit for satisfying any means of egress requirements. As such, it need not be addressed under the subject of emergency lighting of means of egress. However, the proposed Section 11.13 calls for lighting to be addressed as part of the evacuation plan.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 21 Abstain: 3

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

DE VRIES: In accordance with Section 3-3 (e) of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process, I hereby abstain from voting on this comment based on my retention by the Safe Evacuation Coalition to represent their interests on the subject of escape devices and systems.

FAVRO: Please record me as abstaining on all issues relative to the “Supplemental Evacuation Equipment” on both the NFPA 101 and NFPA 5000 ballots. Not having been able to attend the meeting in San Diego, I am unfamiliar with the arguments made for and against the proposals and I am not comfortable with the information that I have seen in a recent CD-ROM and related material that was sent to me.

COMMENT ON AFFIRMATIVE

ELVOVE: The revisions made by the Technical Committee during the ROC meeting have certainly improved upon the original proposal text and therefore provide a minimum level of requirements should a building owner opt to install supplemental evacuation equipment and the local jurisdiction permit its installation. Therefore, all the revisions proposed to the 2005 edition of NFPA 5000 related to supplemental evacuation systems should be accepted. However, should this comment be overturned via this ballot, then ensure the 2005 edition of NFPA 5000 makes no mention of escape devices (i.e., delete all previously accepted proposals having to do with supplemental evacuation systems) as including nothing is better than including flawed code text (which would be the case should this particular comment be rejected and the original proposal remain).

KOFFEL: This comment is one of many that deal with the issue of escape devices or systems. Please see my ballot comment regarding Comment 5000-343.

5000-355a Log #CC252 BLD-MEA FINAL ACTION: Accept (11.9.1.1(6))

SUBMITTER: Technical Committee on Means of Egress

COMMENT ON PROPOSAL NO: 5000-565

RECOMMENDATION: Add an item (6) to 11.9.1.1 as follows:

(6) Access-controlled egress doors in accordance with 11.2.1.6.2

SUBSTANTIATION: Correlation with action on Life Safety Code Comment 101-93.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-355b Log #CC253 BLD-MEA FINAL ACTION: Accept (11.9.2.2)

SUBMITTER: Technical Committee on Means of Egress

COMMENT ON PROPOSAL NO: 5000-567

RECOMMENDATION: Add a new 11.9.2.2 (and renumber 11.9.2.2 through 11.9.2.5 to become 11.9.2.3 through 11.9.2.6) as follows:

11.9.2.2 New emergency power systems for emergency lighting shall be at least Type 10 / Class 1.5 / Level 1 in accordance with NFPA 110, Standard for Emergency and Standby Power Systems


COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-356 Log #591 BLD-MEA FINAL ACTION: Reject (Table 11.3.1.2)

SUBMITTER: Thomas W. Jaeger, Gage-Babcock & Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-550

RECOMMENDATION: Reject Proposal 5000-550

Although I agree that the Code should contain an occupant load factor for storage facilities, I urge the rejection of this proposal.

SUBSTANTIATION: The proposal calls for a 300 sq ft per person load factor for an occupancy that has not, in the past, had a load factor. Based on the substantiation provided by Ken Bush, I can only conclude that the 300 sq ft factor was basically pulled out of the air.

In all due respect to Ken, it is time that the Technical Committee demand technical substantiation for major changes to the Code. What has been provided is far from that. Even if Mr. Bush had only conducted a survey of several warehouses in the State of Maryland to determine occupant load conditions, this might have been sufficient basis for a load factor.

If you accept the 300 sq ft requirement, it will become the “Standard of Care” for storage occupancies. The Committee will then require, in the future, that any change to the 300 sq ft be technically substantiated. It is difficult to impossible to technically substantiate why a number that is not based on technical substantiation should be changed.

The International Building Code uses 500 sq ft and the current NFPA Building Code has no requirement.

It is time that Technical Committees demand a more rigorous process to approve major changes to the Code.

COMMITTEE MEETING ACTION: Reject

SUBSTANTIATION: See Comment 5000-347. An occupant load factor is needed for storage spaces in other than storage occupancies. See the substantiation for the referenced comment. The 300 sq ft load factor has been changed to 500 sq ft which should be helpful to the submitter.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-357 Log #592 BLD-MEA FINAL ACTION: Reject (Table 11.3.1.2)

SUBMITTER: Thomas W. Jaeger, Gage-Babcock & Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-549

RECOMMENDATION: Reject Proposal 5000-549

Although I agree that the Code should contain an occupant load factor for storage facilities, I urge the rejection of this proposal.

SUBSTANTIATION: The proposal calls for a 300 sq ft per person load factor for an occupancy that has not, in the past, had a load factor. Based on the substantiation provided by Ken Bush, I can only conclude that the 300 sq ft factor was basically pulled out of the air.

In all due respect to Ken, it is time that the Technical Committee demand technical substantiation for major changes to the Code. What has been provided is far from that. Even if Mr. Bush had only conducted a survey of several warehouses in the State of Maryland to determine occupant load conditions, this might have been sufficient basis for a load factor.

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It is time that Technical Committees demand a more rigorous process to approve major changes to the Code.

COMMITTEE MEETING ACTION: Reject

SUBSTANTIATION: See Comment 5000-347. An occupant load factor is needed for storage spaces in other than storage occupancies. See the substantiation for the referenced comment. The 300 sq ft load factor has been changed to 500 sq ft which should be helpful to the submitter.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.
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The International Building Code uses 500 sq ft and the current NFPA Building Code has no requirement. It is time that Technical Committees demand a more rigorous process to approve major changes to the Code.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Comment 5000-347. An occupant load factor is needed for storage spaces in other than storage occupancies. See the substantiation for the referenced comment. The 300 sq ft value proposed in the ROP has been changed to 500 sq ft 2 which should be helpful to the submitter.

NUMBER ELIGIBLE TO VOTE: 24

BALLOT RESULTS: Affirmative: 23 Abstain: 1

EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000

REPORT ON COMMENTS — Copyright, NFPA 5000

5000-359 Log #114 BLD-BSY

FINAL ACTION: Accept in Principle

(Chapter 12)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-571

RECOMMENDATION: Address the issue of providing fuller coordination/harmonization between NFPA 5000 and ADAAG, FHAG and A117.1. The TCC notes the creation of a Task Group under BLD-BSY that will be addressing this issue during the comment period.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Comment on 5000-359a (Log #CC351).

COMMITTEE STATEMENT: See Committee Comment on 5000-359a (Log #CC351).

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREEF, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

5000-359 Log #468 BLD-BSY

FINAL ACTION: Accept in Principle in Part

(Chapter 12)

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-571

RECOMMENDATION: Submit ROP 5000-571 (Log #654).

SUBSTANTIATION: At this time the task group did not meet. Based on this, we would ask the committee to review the proposed new Chapter 12. If the committee reject this comment, I would hope that a note to the TCC be send this, I would ask the committee to review the proposed new Chapter 12. If the

COMMITTEE MEETING ACTION: Accept in Principle

See committee action and statement on 5000-359 and Committee Comment 5000-359a (Log #CC351). In addition, the committee rescinded it’s prior vote to ask that the Standards Council create a new TC on Accessibility based in part on the fact that there is now an Accessibility advisory committee to the NFPA President.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 13 Negative: 1

BALLOT NOT RETURNED: 6 AMBREEF, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

EXPLANATION OF NEGATIVE:
MCELVANEY: An Accessibility Advisory Committee that reports to the NFPA president does not solve the problem. Chapter 12 is a very complex chapter that requires its own TC.

The subcommittee that worked on the new Chapter 12, worked hard but it had a goal to get the new Chapter 12 out for review before the ROC. The only group that has seen the new Chapter 12 is the committee. We will not have any public comments. I feel based on the rewrite Chapter 12 needs to be reviewed by the public.

5000-359 Log #CC351 BLD-BSY

FINAL ACTION: Accept in Principle (Chapter 12)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “ACCEPT IN PRINCIPLE: and that the following revisions be made as noted:

Page A. 12.6.1 Revise to read “... with 12.6 and shall comply with ICC/ ANSI A117.1, Chapter 4.” Editorial.

B. 12.6.2.10 Revise to read “... boating facilities shall comply with ICC/ ANSI A117.1, Chapter 4, except as ....” Editorial.

C. 12.6.2.14. Revise to read “... shall comply with ICC/ ANSI A117.1, Chapter 4, except as ....” Editorial.

D. 12.6.2.15 Revise to read “... with 12.38.3, shall comply with ICC/A117.1, Chapter 4, except as ...... Editorial.

E. 12.6.2.16 Revise to read “... shall comply with ICC/A117.1, Chapter 4, except as ...... Editorial.

F. 12.6.2.17 Revise to read “... Play areas shall comply with ICC/A117.1, Chapter 4, except as ...... Editorial.

G. 12.6.2.18 Revise to read “... shall comply with ICC/A117.1, Chapter 4, except as ...... Editorial.

H. 12.9.3 Revise to read: “12.9.3 Medical Care and Long-Term Care Facilities: Healthcare Occupancies and Residential Board and Care Occupancies. At least one passenger loading zone complying with ICC/ ANSI A117.1, section 503 shall be provided at an accessible entrance to licensed medical care and licensed long-term care facilities healthcare occupancies including nursing homes and residential board and care occupancies where the.” Editorial to agree with occupancy descriptions of NFPA 5000.

I. 12.10.1 Revise to read: “... a means of egress shall comply with Chapter 11 and ICC/ANSI A117.1, section 504.” Editorial to ensure that egress provisions of Chapter 11 are followed.

J. 12.23.3 Revise to read: “...23.3 Long-Term Care Facilities Healthcare Occupancies and Residential Board and Care Occupancies (ADA/ABA-AG 223)

K. 12.24. Revise to read: “...24.4 General. Transient lodging facilities Hotels and Motel Guest Rooms (ADA/ABA-AG 224) are permitted to provide...

L. 12.27 Revise to read: “...27.2 Service Merchandise Facilities Healthcare Occupancies (ADA/ABA-AG 227) Editorial to agree with occupancy descriptions of NFPA 5000.

M. 12.33.2 Revise ADA/AG heading to ADA/ABA Occupancy and ADA/AG

ADA/ABA Requirements
Add to Residential Board and Care entry: Healthcare
Occupancy (Nursing Home)

Editorial to agree with occupancy descriptions of NFPA 5000 and to utilize ADA/ABA reference.

N. 12.45.2 Revise to read: “...45.2 Medical Care and Long-Term Care Facilities Healthcare Occupancies (ADA/ABA-AG 805)

12.45.2.1 General. Medical care facility and long-term care facility healthcare occupancy patient or resident sleeping rooms and residential board and care resident sleeping rooms required to provide mobility features shall comply with 805 12.45.2. (ADA/ABA-AG 805.1)

... Editorial to agree with occupancy descriptions of NFPA 5000.

O. 12.45.3 Revise to read: 12.45.3 Transient Lodging Hotel and Motel Guest Rooms (ADA/ABA-AG 806)

12.45.3.1 General. (ADA/ABA-AG 806.1)

12.45.3 Transient lodging Hotel and motel guest rooms shall comply with 806: 12.45.3.

Guest rooms required to provide mobility features shall comply with 806.2: 12.45.3.2

Guest rooms required to provide communication features shall comply with 806.3: 12.45.3.3.

12.45.3.2 Guest Rooms with Mobility Features, Guest rooms required to provide mobility features shall comply with 806.2 12.45.3.2. (ADA/ABA-AG 806.2) Editorial to agree with occupancy descriptions of NFPA 5000 and to identify the proper content references.

P. 12.45.14.2.6.2 Revise to read: 12.45.14.2.6.2 Use Zones. Ground surfaces located within use zones shall comply with ASTM F 1292-99 or ASTM F 1292-2004. (ADA/ABA-AG 100B.2.6.2) Editorial to note that compliance with either edition is acceptable.
Sections 12.33.2.1.1 and 12.33.2.1.2 are required to be Type B units.

On a ground floor, the building is not considered an elevator building for purposes of these guidelines and only the floors that have a building entrance on an accessible route can be considered an elevator building for purposes of these guidelines.

1. The slopes of the undisturbed site measured between the entrance and all vehicular or pedestrian arrival points within 50 feet of the entrance exceed 10 percent; and

2. The floors of the planned entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance exceed 10 percent.

12.33.2.1.3 All floors on that story shall be Type B units.

1. Where a building elevator is provided only as a means of creating an accessible route to sleeping accommodations on that story, all floors served by the elevator shall be Type B units.

2. The slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet of the entrance exceed 10 percent; and

3. The slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance exceed 10 percent.

12.33.2.1.4 Individual Building Testing. It is impractical to provide an accessible entrance served by an accessible route when the terrain of the site with a single building having a common entrance for all units is such that:

1. The percentage of the total buildable area of the undisturbed site with a natural grade less than 10% slope shall be calculated. The analysis of the existing slope (before grading) shall be done on a topographic survey with two foot (2') contour intervals with slope determination made between each successive interval. The accuracy of the slope analysis shall be certified by a professional licensed engineer, landscape architect, or surveyor.

2. To determine the practicality of providing accessibility to planned multifamily dwellings based on the topography of the existing natural terrain, the minimum percentage of grade (or floor area) to be made accessible should equal the percentage of the total buildable area (not including floodplains, wetlands, or other restricted use areas) of the undisturbed site that has an existing natural grade of less than 10% slope.

3. In addition to the percentage established in paragraph 1, all ground floor units in a building, or ground floor units served by a particular entrance, shall be made accessible if the entrance to the units is on an accessible route, and the slopes of the planned entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance exceed 10 percent; or

4. If there are no vehicular or pedestrian arrival points within 50 feet of the planned entrance, the slope for the purposes of this section will be measured to the closest vehicular or pedestrian arrival point.

12.33.2.1.4.2 Site analysis for a site having multiple buildings, or a site with a single building with multiple entrances, impracticality of providing an accessible entrance served by an accessible route can be established by the following steps:

1. The percentage of the total buildable area of the undisturbed site with a natural grade shall be calculated. The analysis of the existing slope (before grading) will be done on a topographic survey with two foot (2') contour intervals with slope determination made between each successive interval. The accuracy of the slope analysis shall be certified by a professional licensed engineer, landscape architect or surveyor.

2. To determine the practicality of providing accessibility to planned multifamily dwellings based on the topography of the existing natural terrain, the minimum percentage of grade (or floor area) to be made accessible should equal the percentage of the total buildable area (not including floodplains, wetlands, or other restricted use areas) of the undisturbed site that has an existing natural grade of less than 10% slope.

3. In addition to the percentage established in paragraph 1, all ground floor units in a building, or ground floor units served by a particular entrance, shall be made accessible if the entrance to the units is on an accessible route, and the slopes of the planned entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance exceed 10 percent; or

4. If there are no vehicular or pedestrian arrival points within 50 feet of the planned entrance, the slope for the purposes of this section will be measured to the closest vehicular or pedestrian arrival point.

12.33.2.1.4.3 Site impracticality due to unusual characteristics. Unusual characteristics include a site located on a federally-designated floodplain, coastal high-hazard area and sites subject to other similar requirements of law or code that the lowest floor or the lowest structural member of the lowest floor must be raised above ground level, or above the base flood elevation, or above the level of any historic high water mark.

1. The unusual site characteristics result in a difference in finished grade elevation exceeding 30 inches and 10 percent measured between an entrance and the lowest floor or the lowest structural member of the lowest floor must be raised above ground level, or above the base flood elevation. An accessible route to the building entrance is impractical due to unusual characteristics of the site when:

1. The unusual site characteristics result in a difference in finished grade elevation exceeding 30 inches and 10 percent measured between an entrance and the lowest floor or the lowest structural member of the lowest floor must be raised above ground level, or above the base flood elevation. An accessible route to the building entrance is impractical due to unusual characteristics of the site when:

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1. The unusual site characteristics result in a difference in finished grade elevation exceeding 30 inches and 10 percent measured between an entrance and the lowest floor or the lowest structural member of the lowest floor must be raised above ground level, or above the base flood elevation. An accessible route to the building entrance is impractical due to unusual characteristics of the site when:

1. The unusual site characteristics result in a difference in finished grade elevation exceeding 30 inches and 10 percent measured between an entrance and the lowest floor or the lowest structural member of the lowest floor must be raised above ground level, or above the base flood elevation. An accessible route to the building entrance is impractical due to unusual characteristics of the site when:
In existing transportation facilities, an area of primary function shall be as
and scope as determined under criteria established by the Attorney General.

12.3.2.2 Non-Elevator Buildings. Where a building is elevator provided only
as a means of creating an accessible route to sleeping units on a
ground floor, the building is not considered an elevator building for
purposes of this Chapter and only the ground floor units with sleeping
accommodations are required to be Type B units.

12.3.2.3 Bass flood elevation. Accessible entrances on accessible routes
are not required for a building where the lowest floor or the lowest
structural floor of non-elevator buildings are required to be
raised above existing grade to or above the base flood elevation and:
1. the difference in elevation between the minimum required floor
elevation at the primary entrances and vehicular and pedestrian arrival points
within 50 feet (15240 mm) exceeds 4 feet (1219 mm), and
2. the slope between the minimum required floor elevation at the
primary entrances and vehicular and pedestrian arrival points within 50
feet (15240 mm) exceeds 10 percent.

Where no such arrival points are within 50 feet (15240 mm) of the
primary entrances, the closest arrival point shall be used.

The TCC notes that the text for these sections and based on the 2003
fair housing accessibility guidelines was worded in such a manner to raise
an issue of potential copyright infringement from other sources. The
revised language maintains the base requirements of the FHA criteria and
addresses the copyright concern.

12.1 Application (ADA/ABA-AG 121)

12.1.1 Scope. All areas of newly designed and newly constructed buildings
and facilities and altered portions of existing buildings and facilities shall
comply with these requirements. (ADA/ABA-AG 201.1)

12.1.2 Application Based on Building or Facility Use. Where a site,
building, facility, room, or space contains more than one use, each portion shall
comply with the accessibility requirements for that use. (ADA/ABA-AG 201.2)

12.1.3 Temporary and Permanent Structures. These requirements shall
apply to temporary and permanent buildings and facilities. (ADA/ABA-AG 201.3)

12.2 Existing Buildings and Facilities- (ADA/ABA-AG 202)

12.2.1 General. Additions and alterations to existing buildings or facilities shall
comply with

12.2.1.2 Additions. Each addition to an existing building or facility shall
comply with the requirements for new construction. Each addition that affects
or could affect the accessibility of or access to an area containing a primary
function shall comply with 12.2.4. (ADA/ABA-AG 202.2)

12.2.3 Alterations. Where existing elements or spaces are altered, each
altered element or space shall comply with the applicable requirements of Chapter 2. (ADA/ABA-
AG 202.3)

EXCEPTIONS:

1. Unless required by 12.2.4, where elements or spaces are altered and the
circulation path to the altered element or space is not altered, an accessible
route shall not be required. (ADA/ABA-AG 202.3, exception 1)
2. In alterations, where compliance with applicable requirements is
technically infeasible, the alteration shall comply with the requirements to the
maximum extent feasible. (ADA/ABA-AG 202.3, exception 2)
3. Residential dwelling units not required to be accessible in compliance with
a standard issued pursuant to the Americans with Disabilities Act or Section
504 of the Rehabilitation Act of 1973, as amended, shall not be required to
comply with 12.2.3. (ADA/ABA-AG 202.3, exception 3)

12.3.1 Prohibited Reduction in Access. An alteration that decreases or
has the effect of decreasing the accessibility of a building or facility below
the requirements for new construction at the time of the alteration is prohibited. (ADA/ABA-
AG 202.3.1)

12.3.2.2 Extent of Application. An alteration of an existing element, space,
or area of a building or facility shall not impose a requirement for accessibility
greater than required for new construction. (ADA/ABA-AG 202.3.2)

12.4 General. Where new, expanding Primary Function Areas. In addition to
the requirements of 12.2.3, an alteration that affects or could affect the usability of
or access to an area containing a primary function shall be made so as to ensure
that, to the maximum extent feasible, the path of travel to the altered area,
including the rest rooms, telephones, and drinking fountains serving the altered
area, are readily accessible to and usable by individuals with disabilities, unless
such alterations are disproportionate to the overall alterations in terms of cost
and scope as determined under criteria established by the Attorney General.
In existing transportation facilities, an area of primary function shall be as
defined under regulations published by the Secretary of the Department of
Transportation or the Attorney General. (ADA/ABA-AG 202.4)

EXCEPTION: Residential dwelling units shall not be required to comply with
12.2.4. (ADA/ABA-AG 202.4, exception)

12.2.5 Alterations to Qualified Historic Buildings and Facilities. Alterations
to a qualified historic building or facility shall comply with 12.2.3 and
12.2.4. (ADA/ABA-AG 202.5)

EXCEPTION: Where the State Historic Preservation Officer or Advisory
Council on Historic Preservation determines that compliance with the
requirements for accessible routes, entrances, or toilet facilities would threaten
or destroy the historic significance of the building or facility, the exceptions for
alterations to qualified historic buildings or facilities, and that element shall be
permitted to apply. (ADA/ABA-202.5, exception)

12.3 General Exceptions. (ADA/ABA-AG 203)

12.3.1 General. Sites, buildings, facilities, and elements are exempt from
these requirements to the extent specified by 12.3. (ADA/ABA-AG 203.1)

12.3.2 Detention and Correctional Facilities. Detention and correctional
facilities, or areas of sport activity are required only by inmates or detainees and
security personnel and that do not serve holding cells or housing cells required
to comply with 12.32, shall not be required to comply with these requirements or to be
on an accessible route. (ADA/ABA-AG 203.6)

12.3.7 Detention and Correctional Facilities. In detention and correctional
facilities, common use areas that are used only by inmates or detainees and
security personnel and that do not serve holding cells or housing cells required
to comply with 12.32, shall not be required to comply with these requirements or to be
on an accessible route. (ADA/ABA-AG 203.7)

12.3.8 Residential Facilities. In residential facilities, common use areas that
do not serve resident dwelling units required to provide mobility features
complying with 12.45.5.2 through 12.45.5.5 shall not be required to comply
with these requirements or to be on an accessible route. (ADA/ABA-AG 203.8)

12.3.9 Employee Work Areas. Spaces and elements within employee work
areas shall only be required to comply with 12.6.2.8, 12.7.1, and 12.15.3 and
shall not be required to comply with requirements that are directly associated
with the actual processes of construction, including but not limited to,
the actual processes of construction, including but not limited to, scaffolding,
briding, materials hoists, materials storage, and construction trailers shall not be
required to comply with these requirements or to be on an accessible route.
(ADA/ABA-AG 203.9)

12.3.10 Raised Refereeing, Judging, and Scoring Areas. Raised structures
used solely for refereeing, judging, or scoring a sport shall not be required to
comply with these requirements or to be on an accessible route. (ADA/ABA-
AG 203.10)

12.3.11 Water Slides. Water slides shall not be required to comply with these
requirements or to be on an accessible route. (ADA/ABA-AG 203.11)

12.3.12 Animal Containment Areas. Animal containment areas that are not
required to be accessed by individuals with disabilities, shall not be required to
comply with these requirements or to be on an accessible route. (ADA/ABA-AG 203.12)

12.3.13 Raised Boxing or Wrestling Rings. Raised boxing or wrestling
rings shall not be required to comply with these requirements or to be on an accessible route. (ADA/ABA-AG 203.13)

12.3.14 Raised Diving Boards and Diving Platforms. Raised diving boards
and diving platforms shall not be required to comply with these requirements or to be on an accessible route. (ADA/ABA-AG 203.14)

12.4 Protruding Objects (ADA/ABA-AG 204)

12.4.1 General. Protruding objects on circulation paths shall comply with
ICC/ANSI A117.1, section 307. (ADA/ABA-AG 204)

EXCEPTIONS:

1. Within areas of sport activity, protruding objects on circulation paths shall not
be required to comply with ICC/ANSI A117.1, section 307 provided that

2. Within play areas, protruding objects on circulation paths shall not
be required to comply with ICC/ANSI A117.1, section 307 provided that

ground level accessible routes provide vertical clearance in compliance with 12.45.13.2. (ADA/ABA-AG 204.1, exception 2)

12.5 Operable Parts (ADA/ABA-AG 205)

12.5.1 General. Operable parts on accessible elements, accessible routes, and in accessible rooms and spaces shall comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1)

EXCEPTIONS:
1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 2)
2. Electrical or communication receptacles serving a dedicated use shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 2)
3. Where two or more outlets are provided in a kitchen above a length of countertop that is uninterrupted by a sink or appliance, one outlet shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 3)
4. Floor electrical receptacles shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 4)
5. HVAC diffusers shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 5)
6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 6)
7. Circulating fans shall not be required to comply with ICC/ANSI A117.1, section 309.3. (ADA/ABA-AG 205.1, exception 7)
8. Exercise machines and exercise equipment shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 205.1, exception 8)

12.6 Accessible Routes (ADA/ABA-AG 206)

12.6.1 General. Accessible routes shall be provided in accordance with 12.6 and shall comply with Chapter 4. (ADA/ABA-AG 206.1)

12.6.2 Where Required. Accessible routes shall be provided where required by 12.6.2. (ADA/ABA-AG 206.2)

12.6.2.1 Site Arrival Points. At least one accessible route shall be provided within the site from accessible parking spaces and accessible passenger loading zones; public streets and sidewalks; and public transportation stops to the accessible building or facility entrance they serve. (ADA/ABA-AG 206.2.1)

EXCEPTIONS:
1. Where exceptions for alterations to qualified historic buildings or facilities are permitted by 12.2.5, an accessible route shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 206.2.1, exception 1)
2. An accessible route shall not be required between site arrival points and the building or facility entrance if the only means of access between them is a vehicular way not providing pedestrian access. (ADA/ABA-AG 206.2.1, exception 2)

12.6.2.2 Within a Site. At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site. (ADA/ABA-AG 206.2.2)

EXCEPTION: An accessible route shall not be required between accessible buildings, accessible facilities, accessible elements, and accessible spaces if the only means of access between them is a vehicular way not providing pedestrian access. (ADA/ABA-AG 206.2.2, exception)

12.6.2.3 Multi-Story Buildings and Facilities. At least one accessible route shall connect each story and mezzanine in multi-story buildings and facilities. (ADA/ABA-AG 206.2.3)

EXCEPTION: In private buildings or facilities that are less than three stories or that have less than 3000 square feet (279 m²) per story, an accessible route shall not be required to connect stories provided that the building or facility is not a shopping center, a shopping mall, the professional office of a health care provider, an air traffic control center, a post office, a bank, a hotel, or a restaurant, and public use areas serving residential dwelling units are on an accessible route. (ADA/ABA-AG 206.2.3, exception 2)

3. In detention and correctional facilities, an accessible route shall not be required to connect stories where cells with mobility features required to comply with 12.45.4.2, all common use areas serving cells with mobility features required to comply with 12.45.4.2, and all public use areas are on an accessible route. (ADA/ABA-AG 206.2.3, exception 3)

4. In residential facilities, an accessible route shall not be required to connect stories where residential dwelling units with mobility features required to comply with 12.45.5.3 through 12.45.5.5, all common use areas serving residential dwelling units with mobility features required to comply with 12.45.5.3 through 12.45.5.5, and public use areas serving residential dwelling units are on an accessible route. (ADA/ABA-AG 206.2.3, exception 4)

5. Within multi-story transient lodging guest rooms with mobility features required to comply with 12.45.3.2, an accessible route shall not be required to connect stories provided that spaces complying with 12.45.3.2 are on an accessible route and sleeping accommodations for two persons minimum are provided on a story served by an accessible route. (ADA/ABA-AG 206.2.3, exception 5)

6. In air traffic control towers an accessible route shall not be required to serve the cab and the floor immediately below the cab. (ADA/ABA-AG 206.2.3, exception 6)

7. Where exceptions for alterations to qualified historic buildings or facilities are permitted by 12.2.5, an accessible route shall not be required to connect stories located above or below the accessible story. (ADA/ABA-AG 206.2.3, exception 7)

12.6.2.4 Spaces and Elements. At least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility which are otherwise connected by a circulation path unless exempted by 12.6.2.3 Exceptions 1 through 7. (ADA/ABA-AG 206.2.4)

EXCEPTIONS:
1. Routed courtroom stations, including judges’ benches, clerks’ stations, bailiffs’ stations, deputy clerks’ stations, and court reporters’ stations shall not be required to provide vertical access provided that the required clear floor space, maneuvering space, and, if appropriate, electrical service are installed at the time of initial construction to allow future installation of a means of vertical access complying with ICC/ANSI A117.1, sections 405, 407, 408, or 410 without requiring substantial reconstruction of the space. (ADA/ABA-AG 206.2.4, exception 1)
2. In assembly areas with fixed seating required to comply with 12.21, an accessible route shall not be required to serve fixed seating where wheelchair spaces required to be on an accessible route are not provided. (ADA/ABA-AG 206.2.4, exception 2)
3. Accessible routes shall not be required to connect mezzanines where buildings or facilities have no more than one story. In addition, accessible routes shall not be required to connect stories or mezzanines where multi-story buildings or facilities are exempted by 12.6.2.3 Exceptions 1 through 7. (ADA/ABA-AG 206.2.4, exception 3)

12.6.2.5 Restaurants and Cafeterias. In restaurants and cafeterias, an accessible route shall be provided to all dining areas, including raised or sunken dining areas, and outdoor dining areas. (ADA/ABA-AG 206.2.5)

EXCEPTIONS:
1. In buildings or facilities not required to provide an accessible route between stories, an accessible route shall not be required to a mezzanine dining area that is less than 25 percent of the total combined area for seating and dining and where the same decor and services are provided in the accessible area. (ADA/ABA-AG 206.2.5, exception 1)
2. In alterations, an accessible route shall not be required to existing raised or sunken dining areas, or to all parts of existing outdoor dining areas where the same decor and services are provided in an accessible space. (ADA/ABA-AG 206.2.5, exception 2)
3. In sports facilities, tiered dining areas providing seating required to comply with 12.21 shall be required to have accessible routes serving at least 25 percent of the dining area provided that accessible routes serve seating complying with 12.21 and each tier is provided with the same services. (ADA/ABA-AG 206.2.5, exception 3)

12.6.2.6 Performance Areas. Where a circulation path directly connects a performance area to an assembly seating area, an accessible route shall directly connect the assembly seating area with the performance area. An accessible route shall be provided from performance areas to ancillary areas or facilities used by performers unless exempted by 12.6.2.3 Exceptions 1 through 7. (ADA/ABA-AG 206.2.6)

12.6.2.7 Press Boxes. Press boxes in assembly areas shall be on an accessible route. (ADA/ABA-AG 206.2.7)

EXCEPTIONS:
1. An accessible route shall not be required to press boxes in bleachers that have no fixed entry at only one level provided that the aggregate area of all press boxes is 500 square feet (46 m²) maximum. (ADA/ABA-AG 206.2.7, exception 1)
2. An accessible route shall not be required to free-standing press boxes that are elevated above grade 12 feet (3660 mm) minimum provided that the aggregate area of all press boxes is 500 square feet (46 m²) maximum. (ADA/ABA-AG 206.2.7, exception 2)

12.6.2.8 Employee Work Areas. Common use circulation paths located within employee work areas that are an integral component of work area equipment shall not be required to comply
with ICC/ANSI A117.1, section 402. (ADA/ABA-AG 206.2.8, exception 2)

3. Common use circulation paths located within exterior employee work areas that are fully exposed to the weather shall not be required to comply with ICC/ANSI A117.1, section 402. (ADA/ABA-AG 206.2.8, exception 3)

12.6.2.9 Amusement Rides. Amusement rides required to comply with 12.34 shall provide accessible routes in accordance with 12.6.2.9. Accessible routes serving amusement rides shall comply with Chapter 4 except as modified by 12.45.8.2.5. Transfer devices complying with 12.45.8.2.6 shall be on an accessible route. (ADA/ABA-AG 206.2.9)

12.6.2.9.1 Load and Unload Areas. Load and unload areas shall be on an accessible route and unloading areas need not have more than one loading or unloading position, at least one loading and unloading position shall be on an accessible route. (ADA/ABA-AG 206.2.9.1)

12.6.2.9.2 Wheelchair Spaces, Ride Seats Designed for Transfer, and Transfer Devices. When amusement rides are in the load and unload position, wheelchair spaces complying with 12.45.8.2.5 and transfer devices complying with 12.45.8.2.6 shall be on an accessible route. (ADA/ABA-AG 206.2.9.2)

12.6.10 Recreational Boating Facilities. Boat slips required to comply with 12.35.2 and boarding piers at boat launch ramps required to comply with 12.35.2 shall have accessible routes. Accessible routes serving recreational boating facilities shall comply with Chapter 4, except as modified by 12.45.9.2. (ADA/ABA-AG 206.2.10)

12.6.2.11 Bowling Lanes. Where bowling lanes are provided, at least 5 percent, but no fewer than one of each type of bowling lane, shall be on an accessible route. (ADA/ABA-AG 206.2.11)

12.6.12 Court Sports. In court sports, at least one accessible route shall directly connect both sides of the court. (ADA/ABA-AG 206.2.12)

12.6.2.13 Exercise Machines and Equipment. Exercise machines and equipment required to comply with 12.36 shall be on an accessible route. (ADA/ABA-AG 206.2.13)

12.6.2.14 Fishing Piers and Platforms. Fishing piers and platforms shall be on an accessible route. Accessible routes serving fishing piers and platforms shall comply with Chapter 4 except as modified by 12.45.12.1. (ADA/ABA-AG 206.2.14)

12.6.2.15 Golf Facilities. At least one accessible route shall connect accessible elements and spaces within the boundary of the golf course. In addition, accessible routes serving golf cart rental areas; bag drop areas; course weather shelters complying with 12.38.2;3; course toilet rooms; and practice putting greens, practice teeing grounds, and teeing stations at driving ranges complying with 12.38.3 shall comply with Chapter 4 except as modified by 12.45.13.2. (ADA/ABA-AG 206.2.15)

12.6.2.16 Miniature Golf Facilities. Holes required to comply with 12.39.2, including the start of play, shall be on an accessible route. Accessible routes serving miniature golf facilities shall comply with Chapter 4 except as modified by 12.45.13.2. (ADA/ABA-AG 206.2.16)

12.6.2.17 Play Areas. Play areas shall provide accessible routes in accordance with 12.6.2.17. Accessible routes serving play areas shall comply with Chapter 4 except as modified by 12.45.17.2. (ADA/ABA-AG 206.2.17)

12.6.2.17.1 Ground Level and Elevated Play Components. At least one accessible route shall be provided within the play area. The accessible route shall connect ground level play components with 12.40.2.1 and elevated play components required to comply with 12.40.2.2, including entry and exit points of the play components. (ADA/ABA-AG 206.2.17.2)

12.6.2.17.2 Soft Contained Play Structures. Where three or fewer entry points are provided for soft contained play structures, at least one entry point shall be on an accessible route. Where four or more entry points are provided for soft contained play structures, at least two entry points shall be on an accessible route. (ADA/ABA-AG 206.2.17.2)

12.6.3 Location. Accessible routes shall coincide with or be located in the same area as general circulation paths. Where circulation paths are interior, required accessible routes shall also be interior. (ADA/ABA-AG 206.3)

12.6.4 Play Areas Entrances. Play Areas Entrances shall be provided in accordance with 12.6.4. Entrance doors, doorways, and gates shall comply with ICC/ANSI A117.1, section 404 and shall be on an accessible route complying with ICC/ANSI A117.1, section 402. (ADA/ABA-AG 206.4)

EXCEPTIONS:

1. Where an alteration includes alterations to an entrance, and the building or facility has another entrance complying with ICC/ANSI A117.1, section 404 that is on an accessible route, the altered entrance shall not be required to comply with 12.6.4 unless required by 12.2.4. (ADA/ABA-AG 206.4, exception 1)

2. Where exceptions for alterations to qualified historic buildings or facilities are permitted by 12.2.5, no more than one public entrance shall be required to comply with 12.6.4. Where no public entrance can comply with 12.6.4 under criteria established in 12.2.5 Exception, then either an unlocked entrance not used by the public shall comply with 12.6.4; or a locked entrance complying with 12.6.4 with a notification system or remote monitoring shall be provided. (ADA/ABA-AG 206.4, exception 2)

12.6.4.1 Public Entrances. In addition to entrances required by 12.6.4.2 through 12.6.4.9, at least 50 percent of all public entrances shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.4.1)

12.6.4.2 Parking Structure Entrances. Where direct access is provided for pedestrians from a parking structure to a building or facility entrance, each direct access to the building or facility entrance shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.4.2)

12.6.4.3 Entrances from Tunnels or Elevated Walkways. Where direct access is provided for pedestrians from a tunnel or elevated walkway to a building or facility, at least one direct entrance to the building or facility from each tunnel or walkway shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.4.3)

12.6.4.5 Tenant Spaces. Amenity accessible entrances to other facilities shall provide an accessible route complying with ICC/ANSI A117.1, section 404 from the point of connection to building platforms and all transportation system elements required to be accessible. Any elements provided to facilitate future direct connections shall be on an accessible route connecting building platforms and all transportation system elements required to be accessible. (ADA/ABA-AG 206.4.5)

EXCEPTION: Self-service storage facilities not required to comply with 12.25.3 shall not be required to be on an accessible route. (ADA/ABA-AG 206.4.5)

12.6.4.6 Residential Dwelling Unit Primary Entrance. In residential dwelling units, at least one primary entrance shall comply with ICC/ANSI A117.1, section 404. The primary entrance to a residential dwelling unit shall not be to a bedroom. (ADA/ABA-AG 206.4.6)

12.6.4.7 Restricted Entrances. Direct connects restricted entrances are provided to a building or facility, at least one restricted entrance to the building or facility shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.4.7)

12.6.4.8 Service Entrances. If a service entrance is the only entrance to a building or to a tenancy in a facility, that entrance shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.4.8)

12.6.4.9 Entrances for Inmates or Detainees. Where entrances used only by inmates or detainees and security personnel are provided at judicial facilities, detention facilities, or correctional facilities, at least one such entrance shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.4.9)

12.6.5.1 Entrances. Each entrance to a building or facility required to comply with 12.6.4 shall have at least one door, doorway, or gate complying with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.5.1)

12.6.5.2 Rooms and Spaces. Within a building or facility, at least one door, doorway, or gate serving each room or space complying with these requirements shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.5.2)

12.6.5.3 Transit Lodging Facilities. In transient lodging facilities, entrances, doors, doorways, and gates providing user passage into and within guest rooms that are not required to provide mobility features complying with 12.45.3.2 shall comply with ICC/ANSI A117.1, section 404.2.3. (ADA/ABA-AG 206.5.3)

EXCEPTION: Shower and sauna doors in guest rooms that are not required to provide mobility features complying with 12.45.3.2 shall not be required to comply with ICC/ANSI A117.1, section 404.2.3. (ADA/ABA-AG 206.5.3)

12.6.6.1 Residential Dwelling Units. In residential dwelling units required to provide mobility features complying with 12.45.5.2 through 12.45.5.5, all doors and doorways providing user passage shall comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 206.6)

12.6.6.2 Elevators. Elevators provided for passengers shall comply with ICC/ANSI A117.1, section 407. Where multiple elevators are provided, each elevator shall comply with ICC/ANSI A117.1, section 407, (ADA/ABA-AG 206.6)

EXCEPTIONS:

1. In a building or facility permitted to use the exceptions to 12.6.2.3 or permitted by 12.6.7 to use a platform lift, elevators complying with ICC/ANSI A117.1, section 408 shall be permitted. (ADA/ABA-AG 206.6, exception 1)
2. Elevators complying with ICC/ANSI A117.1, section 408 or 409 shall be permitted in multi-story residential dwelling units. (ADA/ABA-AG 206.1, exception 2)

12.6.6.1 Existing Elevators. Where elements of existing elevators are altered, the same elements shall also be altered in all elevators that are programmed to respond to the same hall call control as the altered elevator and shall comply with the requirements of ICC/ANSI A117.1, section 407 for the altered element. (ADA/ABA-AG 206.6.1)

12.6.7 Platform Lifts. Platform lifts shall comply with ICC/ANSI A117.1, section 500. Platform lifts shall be permitted as a component of an accessible route in new construction in accordance with 12.6.7. Platform lifts shall be permitted as a component of an accessible route in an existing building or facility. (ADA/ABA-AG 206.7)

12.6.7.1 Performance Areas and Speakers’ Platforms. Platform lifts shall be permitted to provide accessible routes to performance areas and speakers’ platforms. (ADA/ABA-AG 206.7.1)

12.6.7.2 Wheelchair Spaces. Platform lifts shall be permitted to provide an accessible route to comply with the wheelchair space dispersion and line-of-sight requirements of 12.2.1 and ICC/ANSI A117.1, section 802. (ADA/ABA-AG 206.7.2)

12.6.7.3 Incidental Spaces. Platform lifts shall be permitted to provide an accessible route to incidental spaces which are not public use spaces and which are occupied by five persons maximum. (ADA/ABA-AG 206.7.3)

12.6.7.4 Judicial Spaces. Platform lifts shall be permitted to provide an accessible route to: jury boxes and witness stands; raised courtroom stations of five persons maximum. (ADA/ABA-AG 206.7.4)

12.6.7.5 Existing Site Constraints. Platform lifts shall be permitted where existing exterior site constraints make use of a ramp or elevator infeasible. (ADA/ABA-AG 206.7.5)

12.6.7.6 Guest Rooms and Residential Dwelling Units. Platform lifts shall be permitted to provide accessible routes within transient lodging guest rooms required to provide mobility features complying with 12.45.3.2 or residential dwelling units required to provide mobility features complying with 12.45.5.2 through 12.45.5.5. (ADA/ABA-AG 206.7.6)

12.6.7.7 Amusement Rides. Platform lifts shall be permitted to provide accessible routes to load and unload areas serving amusement rides. (ADA/ABA-AG 206.7.7)

12.6.7.8 Play Areas. Platform lifts shall be permitted to provide accessible routes to play components or soft contained play structures. (ADA/ABA-AG 206.7.8)

12.6.7.9 Team or Player Seating. Platform lifts shall be permitted to provide accessible routes to team or player seating areas serving areas of sport activity. (ADA/ABA-AG 206.7.9)

12.6.7.10 Recreational Boating Facilities and Fishing Piers and Platforms. Platform lifts shall be permitted to be used instead of gangways that are part of accessible routes serving recreational boating facilities and fishing piers and platforms. (ADA/ABA-AG 206.7.10)

12.6.8 Security Barriers. Security barriers, including but not limited to, security bollards and security check points, shall not obstruct a required accessible route or accessible means of egress. (ADA/ABA-AG 206.6.8)

EXCEPTION: Security barriers incorporate elements that cannot comply with these requirements such as certain metal detectors, fluoroscopes, or other similar devices, the accessible route shall be permitted to be located adjacent to security screening devices. The accessible route shall permit persons with disabilities passing around security barriers to maintain visual contact with their personal items to the same extent provided others passing through the security barrier. (ADA/ABA-AG 206.8, exception)

12.7 Accessible Means of Egress (ADA/ABA-AG 207)

12.7.1 General. Means of egress shall comply with section 11.5.4. (ADA/ABA-AG 207.1, exception)

EXCEPTION: 1. Where means of egress are permitted by local building or life safety codes to share a common path of egress travel, accessible means of egress shall be permitted to share a common path of egress travel. (ADA/ABA-AG 207.1, exception 1)

2. Areas of refuge shall not be required in detention and correctional facilities. (ADA/ABA-AG 207.1, exception 2)

12.8 Parking Spaces (ADA/ABA-AG 208)

12.8.1 General. Where parking spaces are provided, parking spaces shall be provided in accordance with 12.8. (ADA/ABA-AG 208.1)

EXCEPTION: Parking spaces used exclusively for buses, trucks, other delivery vehicles, law enforcement vehicles, or vehicular impound shall not be required to comply with 12.8 provided that lots accessed by the public are provided with a passenger loading zone complying with ICC/ANSI A117.1, section 503. (ADA/ABA-AG 208.1, exception)

12.8.2 Minimum Number. Parking spaces complying with ICC/ANSI A117.1, section 502 shall be provided in accordance with Table 12.8.2 except as required by 12.8.2.1, 12.8.2.2, and 12.8.2.3. (ADA/ABA-AG 208.2)

12.8.2.1 Hospital Outpatient Facilities. Ten percent of patient and visitor parking spaces provided to serve hospital outpatient facilities shall comply with ICC/ANSI A117.1, section 502, (ADA/ABA-AG 208.2.1)

12.8.2.2 Rehabilitation Facilities and Outpatient Physical Therapy Facilities. Twenty percent of patient and visitor parking spaces provided to serve rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities shall comply with ICC/ANSI A117.1, section 502. (ADA/ABA-AG 208.2.2)

12.8.2.3 Residential Facilities. Parking spaces provided to serve residential facilities shall comply with 12.8.2.3. (ADA/ABA-AG 208.2.3)

12.8.2.3.1 Parking for Residents. Where at least one parking space is provided for each residential dwelling unit, at least one parking space complying with ICC/ANSI A117.1, section 502 shall be provided for each residential dwelling unit required to provide mobility features complying with 12.45.3.2 or residential dwelling units provided for each residential dwelling unit required to provide mobility features complying with 12.45.5.2 through 12.45.5.5. (ADA/ABA-AG 208.2.3.1)

12.8.2.3.2 Additional Parking Spaces for Residents. Where the total number of parking spaces provided for each residential dwelling unit exceeds one parking space per residential dwelling unit, 2 percent, but no fewer than one, parking spaces shall be provided for each additional residential dwelling unit required to provide mobility features complying with 12.45.3.2 or residential dwelling units provided for each residential dwelling unit required to provide mobility features complying with 12.45.5.2 through 12.45.5.5. (ADA/ABA-AG 208.2.3.2)

12.8.2.3.3 Parking for Guests, Employees, and Other Non-Residents. Where parking spaces are provided for persons other than residents, parking shall be provided in accordance with Table 12.8.2. (ADA/ABA-AG 208.2.3.3)

12.8.3 Location. Parking facilities shall comply with 12.8.3. (ADA/ABA-AG 208.3)

12.8.3.1 General. Parking spaces complying with ICC/ANSI A117.1, section 502 that serve a particular building or facility shall be located on the shortest accessible route from parking to an entrance complying with 12.6.4. Where parking serves more than one accessible entrance, parking spaces complying with ICC/ANSI A117.1, section 502 shall be dispersed and located on the shortest accessible route to the accessible entrances. In parking facilities that do not serve a particular building or facility, parking spaces complying with ICC/ANSI A117.1, section 502 shall be located on the shortest accessible route to an accessible pedestrian entrance of the parking facility. (ADA/ABA-AG 208.3.1, exception)

EXCEPTION: 1. All van parking spaces shall be permitted to be grouped on one level within a multi-story parking facility. (ADA/ABA-AG 208.3.1, exception 1)

2. Parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee, and user convenience. (ADA/ABA-AG 208.3.1, exception 2)

12.8.3.2 Residential Facilities. In residential facilities containing residential dwelling units required to provide mobility features complying with 12.45.5.2 through 12.45.5.5, parking spaces provided in accordance with 12.8.2.3.1 shall be located on the shortest accessible route to the residential dwelling unit entrance they serve. Spaces provided in accordance with 12.8.2.3.1 shall be dispersed throughout all types of parking provided for the residential dwelling units. (ADA/ABA-AG 208.3.2)

EXCEPTION: Parking spaces provided in accordance with 12.8.2.3.2 shall not be required to be dispersed throughout all types of parking if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance, parking fee, and user convenience. (ADA/ABA-AG 208.3.2, exception)

12.9 Passenger Loading Zones and Bus Stops (ADA/ABA-AG 209)

12.9.1 General. Passenger loading zones shall be provided in accordance with 12.9. (ADA/ABA-AG 208.9.1)

12.9.2 Type. Where provided, passenger loading zones shall comply with 12.9.2. (ADA/ABA-AG 208.9.2)

<table>
<thead>
<tr>
<th>Table 12.8.2 (ADA/ABA-AG able 208.2) Parking Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number of Parking Spaces Provided in Parking Facility</strong></td>
</tr>
<tr>
<td>1 to 25</td>
</tr>
<tr>
<td>26 to 30</td>
</tr>
<tr>
<td>51 to 75</td>
</tr>
<tr>
<td>76 to 100</td>
</tr>
<tr>
<td>101 to 150</td>
</tr>
<tr>
<td>151 to 200</td>
</tr>
<tr>
<td>201 to 300</td>
</tr>
<tr>
<td>301 to 400</td>
</tr>
<tr>
<td>401 to 500</td>
</tr>
<tr>
<td>501 to 1000</td>
</tr>
</tbody>
</table>
12.9.2.1 Passenger Loading Zones. Passenger loading zones, except those required to comply with 12.9.2.2 and 12.9.2.3, shall provide at least one passenger loading zone complying with ICC/ANSI A117.1, section 503 in every continuous horizontal plane of length greater than 100 feet (30 m) of loading zone space, or fraction thereof. (ADA/ABA-AG 209.2.1)

12.9.2.2 Bus Loading Zones. In bus loading zones restricted to use by designated or specified public transportation vehicles, each bus bay, bus stop, or other passenger loading zone shall comply with ICC/ANSI A117.1, section 505.2. (ADA/ABA-AG 209.2.2)

12.9.2.3 On-Street Bus Stops. On-street bus stops shall comply with ICC/ANSI A117.1, section 505.2 to the maximum extent practicable. (ADA/ABA-AG 209.2.3)

12.9.3 Medical Care and Long-Term Care Facilities. At least one passenger loading zone complying with ICC/ANSI A117.1, section 503 shall be provided at an accessible entrance to licensed medical care and licensed long-term care facilities where the period of stay exceeds twenty-four hours. (ADA/ABA-AG 209.3)

12.9.4 Valet Parking. Parking facilities that provide valet parking services shall provide at least one passenger loading zone complying with ICC/ANSI A117.1, section 503. (ADA/ABA-AG 209.4)

12.9.5 Mechanical Access Parking Garages. Mechanical access parking garages shall provide at least one passenger loading zone complying with ICC/ANSI A117.1, section 503 at vehicle drop-off and vehicle pick-up areas. (ADA/ABA-AG 209.5)

12.10 Stairways (ADA/ABA-AG 210)

12.10.1 General. Interior and exterior stairs that are part of a means of egress shall comply with ICC/ANSI A117.1, section 504. (ADA/ABA-AG 210.1)

EXCEPTIONS:

1. In detention and correctional facilities, stairs that are not located in public use areas shall not be required to comply with ICC/ANSI A117.1, section 504. (ADA/ABA-AG 210.1, exception 1)

2. In alterations where the floors and levels that are connected by an accessible route shall not be required to comply with ICC/ANSI A117.1, section 504 except that handrails complying with ICC/ANSI A117.1, section 505 shall be provided when the stairs are altered. (ADA/ABA-AG 210.1, exception 2)

3. In alterations where stairs shall not be required to comply with ICC/ANSI A117.1, section 504. (ADA/ABA-AG 210.1, exception 3)

4. Stairs that connect play components shall not be required to comply with ICC/ANSI A117.1, section 504. (ADA/ABA-AG 210.1, exception 4)

12.11 Drinking Fountains (ADA/ABA-AG 211)

12.11.1 General. Where drinking fountains are provided on an exterior site, on a floor, or within a secured area they shall be provided in accordance with 12.11. (ADA/ABA-AG 211.1)

EXCEPTION: Where a single drinking fountain complies with ICC/ANSI A117.1, section 602.1 through 602.6 and 602.7, it shall be permitted to be substituted for two separate drinking fountains. (ADA/ABA-AG 211.2, exception)

12.11.2 Minimum Number. No fewer than two drinking fountains shall be provided in a toilet room complying with ICC/ANSI A117.1, section 602.1 through 602.6 and 602.7, it shall be permitted to be substituted for two separate drinking fountains. (ADA/ABA-AG 211.2, exception)

12.11.3 More than Minimum Number. Where more than the minimum number of drinking fountains specified in 12.11.2 are provided, the total number of drinking fountains provided shall comply with ICC/ANSI A117.1, section 602.1 through 602.6, and 50 percent of the total number of drinking fountains provided shall comply with ICC/ANSI A117.1, section 602.7. (ADA/ABA-AG 211.3)

EXCEPTION: Where 50 percent of the drinking fountains yields a fraction, 50 percent shall be permitted to be rounded up or down provided that the total number of drinking fountains complying with 12.11.2 equals 100 percent of drinking fountains. (ADA/ABA-AG 211.3, exception)

12.12 Kitchens and Kitchenettes (ADA/ABA-AG 212)

12.12.1 General. Where provided, kitchens, kitchenettes, and sinks shall comply with 12.12. (ADA/ABA-AG 212.1)

12.12.2 Kitchenette. Kitchens, kitchenettes and sinks shall comply with ICC/ANSI A117.1, section 804. (ADA/ABA-AG 212.2)

EXCEPTION: Mop or sink service sinks shall not be required to comply with 12.12.2.3. (ADA/ABA-AG 212.3, exception)

12.12.3 Toilet Facilities and Bathing Facilities (ADA/ABA-AG 213)

12.12.3.1 General. Where toilet facilities and bathing facilities are provided, they shall comply with 12.13. Where toilet facilities and bathing facilities are provided in facilities permitted by 12.6.2.3. (ADA/ABA-AG 213.1)

12.12.3.2 Exceptions 1 and 2 do not permit to connect stories by an accessible route, toilet facilities and bathing facilities shall be provided on a story connected by an accessible route to an accessible entrance. (ADA/ABA-AG 213.1)

12.12.3.3 Urinals. Where more than one urinal is provided, at least one urinal shall comply with ICC/ANSI A117.1, section 603.5. (ADA/ABA-AG 213.3)

EXCEPTION: Urinals provided in toilet rooms without toilet compartments, at least one of each type shall comply with ICC/ANSI A117.1, section 603.5. (ADA/ABA-AG 213.3, exception 1)

12.12.3.4 Lavatories. Where lavatories are provided, at least one lavatory shall comply with ICC/ANSI A117.1, section 603.5. (ADA/ABA-AG 213.4)

EXCEPTION: Where one lavatory is provided, provided in toilet rooms without toilet compartments, at least one of each type shall comply with ICC/ANSI A117.1, section 603.5. (ADA/ABA-AG 213.4, exception 1)

12.12.3.5 Mirrors. Mirrors are provided, at least one shall comply with ICC/ANSI A117.1, section 603.5. (ADA/ABA-AG 213.5)

12.12.3.6 Bathing Facilities. Where bathtubs or showers are provided, at least one bathtub or shower complying with ICC/ANSI A117.1, section 607.5. (ADA/ABA-AG 213.6)

EXCEPTION: Where one bathtub or shower is provided, one bathtub complying with ICC/ANSI A117.1, section 607.5. (ADA/ABA-AG 213.6, exception 1)

12.12.4 Fire Alarm Systems (ADA/ABA-AG 215)

12.12.5 Residential Facilities. Where fire alarm systems are provided, provided in residential facilities, provided one fire alarm system is installed. (ADA/ABA-AG 215.1, exception)

12.12.5.1 General. Where fire alarm systems provide audible alarm, alarms shall comply with 12.15. (ADA/ABA-AG 215.1)

EXCEPTION: Where existing facilities, alarms shall not be required except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed. (ADA/ABA-AG 215.1, exception)

12.12.5.2 Public and Common Use Areas. Alarms in public use areas and common use areas shall comply with NFPA 72. (ADA/ABA-AG 215.2)

12.13 Clothes Dryers. Where three or fewer clothes dryers are provided, at least one shall comply with ICC/ANSI A117.1, section 611. Where more than three clothes dryers are provided, at least two shall comply with ICC/ANSI A117.1, section 611. (ADA/ABA-AG 215.2)

12.14 Washing Machines and Clothes Dryers (ADA/ABA-AG 214)


EXCEPTION: Where there are three or fewer washing machines are provided, at least one shall comply with ICC/ANSI A117.1, section 611. Where more than three washing machines are provided, at least two shall comply with ICC/ANSI A117.1, section 611. (ADA/ABA-AG 214.2)

12.15 Fire Alarm Systems (ADA/ABA-AG 215)

12.15.1 General. Where fire alarm systems provide audible alarm, alarms shall comply with 12.15. (ADA/ABA-AG 215.1)

EXCEPTION: Where existing facilities, alarms shall not be required except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed. (ADA/ABA-AG 215.1, exception)

12.15.2 Public and Common Use Areas. Alarms in public use areas and common use areas shall comply with NFPA 72. (ADA/ABA-AG 215.2)

12.15.3 Employee Work Areas. Where employee work areas have audible alarm coverage, the wiring system shall be designed so that all audible alarms are audible alarm system is installed. (ADA/ABA-AG 215.3, exception)

12.15.4 Transient Lodging. Guest rooms required to comply with 12.24.4 shall provide audible alarms complying with NFPA 72. (ADA/ABA-AG 215.4)

12.15.5 Residential Facilities. Where provided in residential dwelling units required to comply with 12.45.5.6, alarms shall comply with NFPA 72. (ADA/ABA-AG 215.5)

12.16 Signs (ADA/ABA-AG 216)

12.16.1 General. Signs shall be provided in accordance with 12.16 and shall comply with ICC/ANSI A117.1, section 703. (ADA/ABA-AG 216.1)
12.16.2 Designations. Interior and exterior signs identifying permanent rooms and spaces shall comply with ICC/ANSI A117.1, section 703.1, 703.2, and 703.5. Where pictograms are provided as designations of permanent interior rooms and spaces, the pictograms shall comply with ICC/ANSI A117.1, section 703.6. Where direction signs complying with ICC/ANSI A117.1, section 703.2 and ICC/ANSI A117.1, section 703.5. (ADA/ABA-AG 216.2)

EXCEPTION: Exterior signs that are not located at the door to the space they serve shall not be required to comply with ICC/ANSI A117.1, section 703.2 and 703.5. (ADA/ABA-AG 216.2, exception 4)

12.16.3 Directional and Informational Signs. Signs that provide direction to or information about interior spaces and facilities of the site shall comply with ICC/ANSI A117.1, section 703.5. (ADA/ABA-AG 216.3)

12.16.4 Means of Egress. Signs for means of egress shall comply with 12.16.4. (ADA/ABA-AG 216.4)

12.16.7 Elevators. Where existing elevators do not comply with ICC/ANSI A117.1, section 703.1, 703.2, and 703.5. Where existing elevators sharing common areas with those not complying with ICC/ANSI A117.1, section 703.6. Where direction signs complying with ICC/ANSI A117.1, section 703.5 that indicate the location of the nearest entrance complying with ICC/ANSI A117.1, section 404 shall be provided at entrances that do not comply with ICC/ANSI A117.1, section 404. (ADA/ABA-AG 216.7)

12.17 Wheelchair Accessible Telephones. Where public telephones are provided, wheelchair accessible telephones complying with ICC/ANSI A117.1, section 704.2 shall be provided in accordance with Table 12.17.2. (ADA/ABA-AG 217.2)

EXCEPTION: Drive-up only public telephones shall not be required to comply with 12.17.2. (ADA/ABA-AG 217.2, exception)

### Table 12.17.2 (ADA/ABA-AG Table 217.2) Wheelchair Accessible Telephones

<table>
<thead>
<tr>
<th>Minimum Number of Required Wheelchair Accessible Telephones</th>
<th>Number of Telephones Provided on a Floor, Level, or Exterior Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bank</td>
<td>1 per floor, level, and exterior site</td>
</tr>
<tr>
<td>2 or more banks</td>
<td>1 per floor, level, and exterior site</td>
</tr>
</tbody>
</table>

12.17.3 Volume Controls. All public telephones shall have volume controls complying with ICC/ANSI A117.1, section 704.5. (ADA/ABA-AG 217.3)

12.17.4 TTYS. TTYS complying with ICC/ANSI A117.1, section 704.4 shall be provided in accordance with 12.17.4. (ADA/ABA-AG 217.4)

EXCEPTION: TTYS shall not be required at banks of telephones located within 200 feet (61 m) of, and on the same floor as, a bank containing a public TTY. (ADA/ABA-AG 217.4.1)

12.17.4.2 Floor Requirement. TTYS in public buildings shall be provided in accordance with 12.17.4.2.1. TTYS in private buildings shall be provided in accordance with 12.17.4.2.2. (ADA/ABA-AG 217.4.2)

12.17.4.2.1 Private Buildings. Where at least one public pay telephone is provided on a floor of a public building, at least one public TTY shall be provided on that floor. (ADA/ABA-AG 217.4.2.1)

12.17.4.2.2 Public Buildings. Where at least one public pay telephone is provided on a floor of a public building, at least one public TTY shall be provided on that floor. (ADA/ABA-AG 217.4.2.2)

12.17.4.3 Building Requirement. TTYS in public buildings shall be provided in accordance with 12.17.4.3.1. TTYS in private buildings shall be provided in accordance with 12.17.4.3.2. (ADA/ABA-AG 217.4.3)

12.17.4.3.1 Private Buildings. Where at least one public pay telephone is provided in a public building, at least one public TTY shall be provided in the building. Where at least one public pay telephone is provided in a public use area of a public building, at least one public TTY shall be provided in the public building in a public use area. (ADA/ABA-AG 217.4.3.1)

12.17.4.3.2 Private Buildings. Where four or more public pay telephones are provided in a private building, at least one public TTY shall be provided in the building. (ADA/ABA-AG 217.4.3.2)

12.17.4.4 Exterior Site Requirement. Where four or more public pay telephones are provided on an exterior site, at least one public TTY shall be provided on the site. (ADA/ABA-AG 217.4.4)

12.17.4.5 Rest Stops, Emergency Roadside Stops, and Service Plazas. Where at least one public pay telephone is provided at a public rest stop, emergency roadside stop, or service plaza, at least one public TTY shall be provided. (ADA/ABA-AG 217.4.5)

12.17.4.6 Hospitals. Where at least one public pay telephone is provided serving a hospital emergency room, hospital recovery room, or hospital waiting room, at least one public TTY shall be provided at each location. (ADA/ABA-AG 217.4.6)
12.17.4.7 Transportation Facilities. In transportation facilities, in addition
 to the requirements of 12.17.4.1 through 12.17.4.4, where at least one public pay telephone serves a particular entrance to a bus or rail facility, at least one public pay telephone shall be located to serve that entrance. In airports, in addition to the requirements of 12.17.4.1 through 12.17.4.4, where four or more public pay telephones are located in a terminal outside the security areas, a concourse within the security areas, or a baggage claim area in a terminal, at least one public TTY shall be provided to serve that entrance. (ADA/ABA-AG 217.4.7)

12.17.4.8 Detention and Correctional Facilities. In detention and correctional facilities, where at least one pay telephone is provided in a secured area used only by detainees or inmates and security personnel, at least one TTY shall be provided in at least one secured area. (ADA/ABA-AG 217.4.8)

12.17.5 Shelves for Portable TTYs. Where a bank of telephones in the interior of a building consists of three or more public pay telephones, at least one public pay telephone at the bank shall be provided with a shelf and an electrical outlet in accordance with ICC/ANSI A117.1, section 704.5. (ADA/ABA-AG 217.5)

EXCEPTIONS:
1. Secured areas of detention and correctional facilities where shelves and outlets are prohibited for purposes of security or safety shall not be required to comply with 12.17.5. (ADA/ABA-AG 217.5, exception 1)
2. The shelf and electrical outlet shall not be required at a bank of telephones with a TTY. (ADA/ABA-AG 217.5, exception 2)

12.18 Transportation Facilities (ADA/ABA-AG 218)

12.18.1 General. Transportation facilities shall comply with 12.18. (ADA/ABA-AG 218.1)

12.18.2 New and Altered Fixed Guideway Stations. New and altered stations in rapid rail, light rail, commuter rail, intercity rail, high speed rail, and other fixed guideway systems shall comply with ICC/ANSI A117.1, section 805.5 through 805.10. (ADA/ABA-AG 218.2)

12.18.3 Key Stations and Existing Intercity Rail Stations. Key stations and existing intercity rail stations shall comply with ICC/ANSI A117.1, section 805.5 through 805.10. (ADA/ABA-AG 218.3)

12.18.4 Bus Shelters. Where provided, bus shelters shall comply with ICC/ANSI A117.1, section 805.3. (ADA/ABA-AG 218.4)

12.18.5 Other Transportation Facilities. In other transportation facilities, public address systems shall comply with ICC/ANSI A117.1, section 805.7 and clocks shall comply with ICC/ANSI A117.1, section 805.8. (ADA/ABA-AG 218.5)

12.19 Assistive Listening Systems (ADA/ABA-AG 219)

12.19.1 General. Assistive listening systems shall be provided in accordance with 12.19.1 and shall comply with ICC/ANSI A117.1, section 706. (ADA/ABA-AG 219.1)

12.19.2 Required Systems. In each assembly area where audible communication is integral to the use of the space, an assistive listening system shall be provided. (ADA/ABA-AG 219.2)

EXCEPTION: Other than in courtrooms, assistive listening systems shall not be required where audio amplification is not provided. (ADA/ABA-AG 219.2, exception)

12.19.3 Receivers. Receivers complying with ICC/ANSI A117.1, section 706.2 shall be provided for assistive listening systems in each assembly area in accordance with Table 12.19.3. Twenty-five percent minimum of receivers provided, but no fewer than two, shall be hearing-aid compatible in accordance with ICC/ANSI A117.1, section 706.3. (ADA/ABA-AG 219.3)

EXCEPTIONS:
1. Where a building contains more than one assembly area and the assembly areas required to provide assistive listening systems are under one management, the total number of required receivers shall be permitted to be calculated according to the total number of seats in the assembly areas in the building, provided that all receivers are usable with all systems. (ADA/ABA-AG 219.3, exception 1)
2. Where all seats in an assembly area are served by an induction loop assistive listening system, the minimum number of receivers required by Table 12.19.3 to be hearing-aid compatible shall not be required to be provided. (ADA/ABA-AG 219.3, exception 2)

12.20 Automatic Teller Machines and Fare Machines (ADA/ABA-AG 220)

12.20.1 General. Where automatic teller machines or self-service fare vending, collection, or adjustment machines are provided, at least one of each type shall be located in an assembly area that complies with ICC/ANSI A117.1, section 707. Where bins are provided for envelopes, waste paper, or other purposes, at least one of each type shall comply with 12.45.7. (ADA/ABA-AG 220.1)

12.21 Assembly Areas (ADA/ABA-AG 221)

### Table 12.19.3 (ADA/ABA-AG Table 219.3)

<table>
<thead>
<tr>
<th>Capacity of Seating in Assembly Area</th>
<th>Minimum Number of Required Receivers</th>
<th>Minimum Number of Required Receivers Required to be Hearing-aid Compatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 or less</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>51 to 200</td>
<td>2, plus 1 per 25 seats over 50 seats1</td>
<td></td>
</tr>
<tr>
<td>201 to 500</td>
<td>2, plus 1 per 25 seats over 50 seats1</td>
<td></td>
</tr>
<tr>
<td>501 to 1000</td>
<td>20, plus 1 per 33 seats over 500 seats1</td>
<td>1 per 4 receivers1</td>
</tr>
<tr>
<td>1001 to 2000</td>
<td>5, plus 1 per 50 seats over 1000 seats1</td>
<td>1 per 4 receivers1</td>
</tr>
<tr>
<td>2001 and over</td>
<td>55, plus 1 per 100 seats over 2000 seats1</td>
<td>1 per 4 receivers1</td>
</tr>
</tbody>
</table>

EXCEPTION: 12.21.1.1.3 Other Boxes. In boxes other than those required to comply with 12.21.1.2, the total number of wheelchair spaces required shall be determined in accordance with Table 12.21.1.2.1. Wheelchair spaces shall be located in not less than 20 percent of all boxes provided. Wheelchair spaces shall comply with ICC/ANSI A117.1, section 802.1. (ADA/ABA-AG 221.1.3)

12.21.1.2 Team or Player Seating. At least one wheelchair space complying with ICC/ANSI A117.1, section 802.1 shall be provided in team or player seating areas serving areas of sports activity. (ADA/ABA-AG 221.1.4)

EXCEPTION: Wheelchair spaces shall not be required in team or player seating areas serving bowling lanes not required to comply with 12.6.2.11. (ADA/ABA-AG 221.1.4, exception)

12.21.1.3 Lines of Sight and Dispersion. Wheelchair spaces shall provide lines of sight complying with ICC/ANSI A117.1, section 802.2 and shall comply with 12.21.1.3. In providing lines of sight, wheelchair spaces shall be dispersed. Wheelchair spaces shall provide spectators with choices of seating locations and viewing angles that are substantially equivalent to, or better than, the choices of seating locations and viewing angles available to all other spectators. When the number of wheelchair spaces required by 12.21.1.2 has been met, further dispersion shall not be required. (ADA/ABA-AG 221.2.3)

EXCEPTION: Wheelchair spaces in team or player seating areas serving areas of sport activity shall not be required to comply with 12.21.1.3. (ADA/ABA-AG 221.2.3, exception)

12.21.2.2 Integration. Wheelchair spaces shall be an integral part of the seating plan. (ADA/ABA-AG 221.2.2)

12.21.2.3 Horizontal Dispersion. Wheelchair spaces shall be dispersed horizontally. (ADA/ABA-AG 221.2.3.1)

EXCEPTIONS:
1. Horizontal dispersion shall not be required in assembly areas with 300 or fewer seats if the companion seats required by 12.21.3 and wheelchair spaces are located within the 2nd or 3rd quartile of the total row length. Intermediate aisles shall be included in determining the total row length. If the row length in the 2nd and 3rd quartile of a row is insufficient to accommodate the required number of companion seats and wheelchair spaces, the additional companion seats and wheelchair spaces shall be permitted to be located in the 1st and 4th quartiles of the row. (ADA/ABA-AG 221.2.3.1, exception 1)
2. In row seating, two wheelchair spaces shall be permitted to be located side-by-side. (ADA/ABA-AG 221.2.3.1, exception 2)

12.21.2.3.2 Vertical Dispersion. Wheelchair spaces shall be dispersed vertically at varying distances from the screen, performance area, or playing field. In addition, wheelchair spaces shall be located in each balcony or mezzanine that is located on an accessible route. (ADA/ABA-AG 221.2.3.2)

12.21.2.1.1 General Seating. Wheelchair spaces complying with ICC/ANSI A117.1, section 802.1 shall be provided in accordance with Table 12.21.2.1.1. (ADA/ABA-AG 221.2.1.1)

Table 12.21.2.1.1 (ADA/ABA-AG Table 221.2.1.1)

<table>
<thead>
<tr>
<th>Number of Seats</th>
<th>Minimum Number of Required Wheelchair Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 75</td>
<td>1</td>
</tr>
<tr>
<td>26 to 50</td>
<td>2</td>
</tr>
<tr>
<td>51 to 150</td>
<td>4</td>
</tr>
<tr>
<td>151 to 300</td>
<td>6</td>
</tr>
<tr>
<td>301 to 500</td>
<td>12</td>
</tr>
<tr>
<td>501 and over</td>
<td>30</td>
</tr>
</tbody>
</table>

### Table 12.19.3 (ADA/ABA-AG Table 219.3)

<table>
<thead>
<tr>
<th>Receivers for Assistive Listening Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Number of Required Receivers</td>
</tr>
<tr>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>50 or less</td>
</tr>
<tr>
<td>51 to 200</td>
</tr>
<tr>
<td>201 to 500</td>
</tr>
<tr>
<td>501 to 1000</td>
</tr>
<tr>
<td>1001 to 2000</td>
</tr>
<tr>
<td>2001 and over</td>
</tr>
</tbody>
</table>

1. Or fraction thereof.
EXCEPTIONS:
1. Vertical dispersion shall not be required in assembly areas with 300 or fewer seats if the wheelchair spaces provide viewing angles that are equivalent to, or better than, the average viewing angle provided in the facility. (ADA/ABA-AG 221.2.3.2, exception 1)
2. In bleachers, wheelchair spaces shall not be required to be provided in rows other than rows at points of entry to bleacher seating. (ADA/ABA-AG 221.2.3.2, exception 2)

12.21.3 Companion Seats. At least one companion seat complying with ICC/ANSI A117.1, section 802.3 shall be provided for each wheelchair space required by 12.21.2.1. (ADA/ABA-AG 221.3)

12.21.4 Designated Aisle Seats. At least 5 percent of the total number of aisle seats provided shall comply with ICC/ANSI A117.1, section 802.4 and shall be the aisle seats located closest to accessible routes. (ADA/ABA-AG 221.4)

EXCEPTION: Team or player seating areas serving areas of sport activity shall not be required to comply with 12.21.4. (ADA/ABA-AG 221.4, exception)

12.21.5 Lawn Seating. Lawn seating areas and exterior overflow seating areas, where fixed seats are not provided, shall connect to an accessible route. (ADA/ABA-AG 221.5)

12.22 Dressing, Fitting, and Locker Rooms (ADA/ABA-AG 222)

12.22.1 General. Where dressing rooms, fitting rooms, or locker rooms are provided, at least 5 percent, but no fewer than one, of each type of use in each cluster provided shall comply with ICC/ANSI A117.1, section 803. (ADA/ABA-AG 222.1)

EXCEPTION: In alterations, where it is technically infeasible to provide rooms in accordance with 12.22.1, one room for each sex on each level shall comply with ICC/ANSI A117.1, section 803. Where only unisex rooms are provided, unisex rooms shall be permitted. (ADA/ABA-AG 222.1, exception)

12.22.2 Coat Hooks and Shelves. Where coat hooks or shelves are provided in dressing, fitting or locker rooms without individual compartments, at least one of each type shall comply with ICC/ANSI A117.1, Section 903.5. Where coat hooks or shelves are provided in individual compartments at least one of each type complying with ICC/ANSI A117.1, section 803.5 shall be provided in individual compartments in dressing, fitting and locker rooms required to comply with 12.22.1. (ADA/ABA-AG 222.2)

12.22.3 Medical Care and Long-Term Care Facilities (ADA/ABA-AG 223)

12.23.1 General. In licensed medical care facilities and licensed long-term care facilities where the period of stay exceeds twenty-four hours, patient or resident sleeping rooms shall be provided in accordance with 12.23. (ADA/ABA-AG 223.1)

EXCEPTION: Toilet rooms that are part of critical or intensive care patient sleeping rooms shall not be required to comply with ICC/ANSI A117.1, Section 803. (ADA/ABA-AG 223.1, exception)

12.23.1.1 Alterations. Where sleeping rooms are altered or added, the requirements of 12.23 shall apply only to the sleeping rooms being altered or added until the number of sleeping rooms complies with the minimum number required for new construction. (ADA/ABA-AG 223.1, exception)

12.23.2 Hospitals, Rehabilitation Facilities, Psychiatric Facilities and Detoxification Facilities. Hospitals, rehabilitation facilities, psychiatric facilities and detoxification facilities shall comply with 12.23.2. (ADA/ABA-AG 223.2)

12.23.2.1 Facilities Not Specializing in Treating Conditions That Affect Mobility. In facilities not specializing in treating conditions that affect mobility, at least 10 percent, but no fewer than one, of the patient sleeping rooms shall provide mobility features complying with 12.25.2. (ADA/ABA-AG 223.2.1, exception)

12.23.3 Long-Term Care Facilities. In licensed long-term care facilities, at least 50 percent, but no fewer than one, of each type of resident sleeping room shall provide mobility features complying with 12.25.2. (ADA/ABA-AG 223.3)

12.24 Transient Lodging Guest Rooms (ADA/ABA-AG 224)

12.24.1 General. Transient lodging facilities shall provide guest rooms in accordance with 12.24. (ADA/ABA-AG 224.1)

12.24.1.1 Alterations. Where guest rooms are altered or added, the requirements of 12.24 shall apply only to the guest rooms being altered or added until the number of guest rooms complies with the minimum number required for new construction. (ADA/ABA-AG 224.1.1)

12.24.2 Guest Room Doors and Doorways. Entries, doors, and doorways used for guest passage into and within guest rooms that are not required to provide mobility features complying with 12.45.3.2 shall comply with ICC/ANSI A117.1, section 404.2.3. (ADA/ABA-AG 224.1.2)

EXCEPTION: Shower and sauna doors in guest rooms that are not required to provide mobility features complying with 12.45.3.2 shall not be required to comply with ICC/ANSI A117.1, section 404.2.3. (ADA/ABA-AG 224.1.2, exception)

12.24.2 Guest Rooms with Mobility Features. In transient lodging facilities, guest rooms with mobility features complying with 12.45.3.2 shall be provided in accordance with Table 12.24.2. (ADA/ABA-AG 224.2)

12.24.3 Beds. In guest rooms having more than 25 beds, 5 percent minimum of the beds shall have clear floor space complying with 12.45.3.2. (ADA/ABA-AG 224.3)

12.24.4 Guest Rooms with Communication Features. In transient lodging facilities, guest rooms with communication features complying with 12.45.3.3 shall be provided in accordance with Table 12.24.4. (ADA/ABA-AG 224.4)

<table>
<thead>
<tr>
<th>Total Number of Guest Rooms Provided</th>
<th>Minimum Number of Required Guest Rooms with Communication Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 25</td>
<td>2</td>
</tr>
<tr>
<td>26 to 50</td>
<td>4</td>
</tr>
<tr>
<td>51 to 75</td>
<td>7</td>
</tr>
<tr>
<td>76 to 100</td>
<td>9</td>
</tr>
<tr>
<td>101 to 150</td>
<td>12</td>
</tr>
<tr>
<td>151 to 200</td>
<td>14</td>
</tr>
<tr>
<td>201 to 300</td>
<td>17</td>
</tr>
<tr>
<td>301 to 400</td>
<td>20</td>
</tr>
<tr>
<td>401 to 500</td>
<td>22</td>
</tr>
<tr>
<td>501 to 1000</td>
<td>5 percent of total</td>
</tr>
<tr>
<td>1001 and over</td>
<td>50, plus 3 for each 100 over 1000</td>
</tr>
</tbody>
</table>

12.24.5 Dispersion. Guest rooms required to provide mobility features complying with 12.45.3.2 and guest rooms required to provide communication features complying with 12.45.3.3 shall be dispersed among the various classes of guest rooms, and shall provide choices of types of guest rooms, number of beds, and other amenities comparable to the choices provided to other guests. Where the minimum number of guest rooms required to comply with 12.45.3.5 is not sufficient to allow for complete dispersion, guest rooms shall be dispersed in the following priority: guest room type, number of beds, and amenities. At least one guest room required to provide mobility features complying with 12.45.3.2 shall also provide communication features complying with 12.45.3.3. Not more than 10 percent of guest rooms required to provide mobility features complying with 12.45.3.2 shall be used to satisfy the minimum number of guest rooms required to provide communication features complying with 12.45.3.3. (ADA/ABA-AG 224.5)

12.25 Storage (ADA/ABA-AG 225)

12.25.1 General. Storage facilities shall comply with 12.25. (ADA/ABA-AG 225.1)

12.25.2 Storage. Where storage is provided in accessible spaces, at least one of each type shall comply with 12.45.7. (ADA/ABA-AG 225.2)

12.25.2.1 Lockers. Where lockers are provided, at least 5 percent, but no fewer than one of each type, shall comply with 12.45.7. (ADA/ABA-AG 225.2.1)

12.25.3 Self-Service Storage Facilities. Self-service storage facilities shall provide individual self-service storage spaces complying with these requirements in accordance with Table 12.25.3. (ADA/ABA-AG 225.3)

<table>
<thead>
<tr>
<th>Total Spaces in Facility</th>
<th>Minimum Number of Spaces Required to be Accessible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 200</td>
<td>5 percent, but no fewer than 1</td>
</tr>
<tr>
<td>201 and over</td>
<td>10, plus 2 percent of total number of units over 200</td>
</tr>
</tbody>
</table>

Table 12.24.2 (ADA/ABA-AG Table 224.2)

<table>
<thead>
<tr>
<th>Total Number of Guest Rooms Provided</th>
<th>Minimum Number of Required Rooms Without Roll-in Showers</th>
<th>Minimum Number of Required Rooms with Roll-in Showers</th>
<th>Total Number of Required Rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001 and over</td>
<td>2, plus 1 for each 100, or fraction thereof, over 1000</td>
<td>10, plus 1 for each 100, or fraction thereof, over 1000</td>
<td>30, plus 2 for each 100, or fraction thereof, over 1000</td>
</tr>
</tbody>
</table>
12.25.3.1 Dispersion. Individual self-service storage spaces shall be dispersed throughout the various classes of spaces provided. Where more classes of spaces are provided than the number required to be accessible, the number of spaces shall not be required to exceed that required by Table 12.25.3. Self-service storage spaces complying with Table 12.25.3 shall not be required to be dispersed among buildings in a multi-building facility. (ADA/ABA-AG 225.3.1)

12.26.1 General. Where dining surfaces are provided for the consumption of food or drink, at least 5 percent of the seating spaces and standing spaces at the dining surfaces shall comply with ICC/ANSI A117.1, section 902. In addition, where work surfaces are provided for use by other than employees, at least 5 percent shall comply with ICC/ANSI A117.1, section 902. (ADA/ABA-AG 226.1)

12.27 Sales and Service. Where provided, check-out aisles, sales counters, service counters, food service lines, queues, and waiting lines shall comply with 12.27 and ICC/ANSI A117.1, section 904. (ADA/ABA-AG 227.1)

12.27.2 Check-Out Aisles. Where check-out aisles are provided, check-out aisles complying with ICC/ANSI A117.1, section 904.4 shall be provided in accordance with Table 12.27.2. Where check-out aisles serve different functions, check-out aisles complying with ICC/ANSI A117.1, section 904.4 shall be provided in accordance with Table 12.27.2 for each function. Where check-out aisles are dispersed throughout the building or facility, check-out aisles complying with ICC/ANSI A117.1, section 904.4 shall be dispersed. (ADA/ABA-AG 227.2)

12.27.3 Counters. Where provided, at least one of each type of sales counter and service counter shall comply with ICC/ANSI A117.1, section 904.3. Where counters are dispersed throughout the building or facility, counters complying with ICC/ANSI A117.1, section 904.3 also shall be dispersed. (ADA/ABA-AG 227.3)

12.27.4 Food Service Lines. Food service lines shall comply with ICC/ANSI A117.1, section 904.5. Where self-service shelves are provided, at least 50 percent, but no fewer than one, of each type provided shall comply with ICC/ANSI A117.1, section 308. (ADA/ABA-AG 227.4)

12.27.5 Queues and Waiting Lines. Queues and waiting lines servicing counters or check-out aisles required to comply with ICC/ANSI A117.1, section 904.4 or 904.3 shall comply with ICC/ANSI A117.1, section 403. (ADA/ABA-AG 227.5)

12.28 Depositories, Vending Machines, Change Machines, Mail Boxes, and Fuel Dispensers (ADA/ABA-AG 228)

12.28.1 General. Where provided, at least one of each type of depository, vending machine, change machine, and fuel dispenser shall comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 228.1)

EXCEPTION: Drive-up only depositories shall not be required to comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 228.1, exception)

12.28.2 Mail Boxes. Where mail boxes are provided in an interior location, at least 5 percent, but no fewer than one, of each type shall comply with ICC/ANSI A117.1, section 309. In residential facilities, where mail boxes are provided for each residential dwelling unit, mail boxes complying with ICC/ANSI A117.1, section 309 shall be provided for each residential dwelling unit required to provide mobility features complying with 12.45.5.2 through 12.45.5.5. (ADA/ABA-AG 228.2)

12.29 Windows (ADA/ABA-AG 229)

12.29.1 Glazed openings are provided in accessible rooms or spaces for operation by occupants, at least one opening shall comply with ICC/ANSI A117.1, section 309. Each glazed opening required by an administrative authority to be operable shall comply with ICC/ANSI A117.1, section 309. (ADA/ABA-AG 229.1)

EXCEPTION: 1. Glazed openings in residential dwelling units required to comply with 12.45.5 shall not be required to comply with 12.29. (ADA/ABA-AG 229.1, exception 1) 2. Glazed openings in guest rooms required to provide communication features and in guest rooms required to comply with 12.6.5.3 shall not be required to comply with 12.29. (ADA/ABA-AG 229.1, exception 2)

12.30.1 General. Where a two-way communication system is provided to gain admittance to a building or facility or to restricted areas within a building or facility, the system shall comply with ICC/ANSI A117.1, section 708. (ADA/ABA-AG 230.1)

12.31 Judicial Facilities (ADA/ABA-AG 231)

12.31.1 General. Judicial facilities shall comply with 12.31. (ADA/ABA-AG 231.1)

12.31.2 Courtrooms. Each courtroom shall comply with ICC/ANSI A117.1, section 808. (ADA/ABA-AG 231.2)

12.31.3 Holding Cells. Where provided, central holding cells and court-floor holding cells shall comply with 12.31.3. (ADA/ABA-AG 231.3)

12.31.3.1 Central Holding Cells. Where separate central holding cells are provided for adult male, juvenile male, adult female, or juvenile female, one of each type shall comply with 12.45.4.2. Where central holding cells are provided and are not separated by age or sex, at least one cell complying with 12.45.4.2 shall be provided. (ADA/ABA-AG 231.3.1)

12.31.3.2 Court-Floor Holding Cells. Where separate court-floor holding cells are provided for adult male, juvenile male, adult female, or juvenile female, each courtroom shall be served by one cell of each type complying with 12.45.4.2. Where court-floor holding cells are provided and are not separated by age or sex, courtrooms shall be served by at least one cell complying with 12.45.4.2. Cells may serve more than one courtroom. (ADA/ABA-AG 231.3.2)

12.31.4 Visiting Areas. Visiting areas shall comply with 12.31.4. (ADA/ABA-AG 231.4)

12.31.4.1 Cubicles and Counters. At least 5 percent, but no fewer than one, of cubicles shall comply with ICC/ANSI A117.1, section 902 on both the inmate and detainee sides. (ADA/ABA-AG 231.4.1)

EXCEPTION: The detainee side of cubicles or counters at non-contact visiting areas not serving holding cells required to comply with 12.31 shall not be required to comply with ICC/ANSI A117.1, section 902 or 904.3.2. (ADA/ABA-AG 231.4.1, exception)

12.31.4.2 Partitions. Where solid partitions or security glazing separate visiting areas at least one cubicle complying with ICC/ANSI A117.1, section 904.6. (ADA/ABA-AG 231.4.2)

12.32 Detention Facilities and Correctional Facilities (ADA/ABA-AG 232)

12.32.1 General. Buildings, facilities, or portions thereof, in which people are detained for penal or correction purposes, or in which the liberty of the inmates is restricted for security reasons shall comply with 12.32. (ADA/ABA-AG 232.1)

12.32.2 General Holding Cells and General Housing Cells. General holding cells and general housing cells shall be provided in accordance with 12.32.2. (ADA/ABA-AG 232.2)

EXCEPTION: Alterations to cells shall not be required to comply except to the extent determined by the Attorney General. (ADA/ABA-AG 232.2, exception)

12.32.2.1 Cells with Mobility Features. At least 2 percent, but no fewer than one, of the total number of cells in a facility shall provide mobility features complying with 12.45.4.2. (ADA/ABA-AG 232.2.1)

12.32.2.1.1 Beds. In cells having more than 25 beds, at least 5 percent of the beds shall have clear floor space complying with ICC/ANSI A117.1, section 806.3. (ADA/ABA-AG 232.2.1.1)

12.32.2.2 Cells with Communication Features. At least 2 percent, but no fewer than one, of the total number of general holding cells and general housing cells equipped with audible emergency alarm systems and permanently installed telephones within the cell shall provide communication features complying with 12.45.4.3. (ADA/ABA-AG 232.2.2)

12.32.3 Special Holding Cells and Special Housing Cells. Where special holding cells or special housing cells are provided, at least one cell serving each purpose shall provide mobility features complying with 12.45.4.2. Cells subject to this requirement include, but are not limited to, those used for purposes of orientation, protective custody, administrative or disciplinary detention or segregation, detoxification, and medical isolation. (ADA/ABA-AG 232.3)

EXCEPTION: Alterations to cells shall not be required to comply except to the extent determined by the Attorney General. (ADA/ABA-AG 232.3, exception)

12.32.4 Medical Care Facilities. Patient bedrooms or cells provided to comply with 12.23 shall be provided in addition to any medical isolation cells required to comply with 12.23. (ADA/ABA-AG 232.4, exception)

12.32.5 Visiting Areas. Visiting areas shall comply with 12.32.5. (ADA/ABA-AG 232.5)

12.32.5.1 Cubicles and Counters. At least 5 percent, but no fewer than one, of cubicles shall comply with ICC/ANSI A117.1, section 902 on both the visitor and detainee side. (ADA/ABA-AG 232.5.1)
12.33.2 Residential Dwelling Units Provided by Entities Subject to HUD Section 504 Regulations. Where facilities with residential dwelling units are provided by entities subject to regulations issued by the Department of Housing and Urban Development (HUD) under Section 504 of the Rehabilitation Act of 1973, as amended, such entities shall provide residential dwelling units with mobility features complying with 12.45.5.2 through 12.45.5.5 in a number required by Table 12.33.2. Residential dwelling units required to provide mobility features complying with 12.45.5.2 through 12.45.5.5 shall be on an accessible route as required by 12.6. In addition, such entities shall provide residential dwelling units with communication features complying with 12.45.6. In a number required by 12.33.1.2. Entities subject to 12.33.2 shall not be required to comply with 12.33.3. (ADA/ABA-AG 233.2)

12.33.2.1 Reduction in the Number of Type “B” Units in Certain Residential Board & Care, Hotel, Lodging or Rooming, Dormitory, Apartment or One and Two Family Dwelling Occupancies:

12.33.2.1.1 One story where Type B units are required. At least one story containing units with sleeping accommodations shall be provided with an accessible entrance from the exterior of the building and all units on that story shall be Type B units.

12.33.2.1.2 Additional stories with Type B units. On all other stories that have a building entrance in proximity to arrival points intended to serve units on that story, all units with sleeping accommodations on that story shall be Type B units where:

a) the slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance are 10% or less, and

b) slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance are 10% or less.

c) no arrival points are within 50 feet (15240 mm) of the entrance, the closest arrival point shall be permitted to be used unless it is the same arrival point that serves the story required in 12.33.2.1.1

12.33.2.1.3 Multistory units. A multistory unit with sleeping accommodations which is not provided with elevator service is not required to be a Type B unit.

12.33.2.1.3.1 A multistory unit with sleeping accommodations is provided with external elevator service to only one of its floors:

a) the floor provided with elevator service shall be the primary entry to the unit, and

b) that floor of the unit shall comply with the requirements for a Type B unit, and

c) a toilet facility shall be provided on that floor.

12.33.2.1.4 Site impracticality. On a site with multiple non-elevator buildings, the number of units is permitted to be reduced to a percentage which is equal to the percentage of the entire site having grades, prior to development, which are less than 10 percent, provided that all of the following conditions are met:

1. Not less than 20 percent of the units required on the site are Type B units; and

2. Units required by 12.33.2.1 where the slope between the building entrance serving the units on that story and a pedestrian or vehicular arrival point is no greater than 8.33 percent, are Type B units, and

3. Units required by 12.33.2.1 where an elevated walkway is planned between a building entrance serving the units on that story and a pedestrian or vehicular arrival point and the slope between them is 10 percent or less are Type B units, and

4. Units served by an elevator in accordance with 12.33.2.2 are Type B units.

12.33.2.2 Elevator service to the lowest story with units. Where elevator service in the building provides an accessible route only to the lowest story containing units with sleeping accommodations, only the units with sleeping accommodations on that story are required to be Type B units.

12.33.2.3 Base flood elevation. Type B units are not required in a building where the lowest floor or the lowest structural floor member of non-elevator buildings are required to be raised above existing grade to or above the base flood elevation and:

1. The difference in elevation between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15240 mm) exceeds 30 inches (762 mm), and

Table 12.33.2 (ADA/ABA-AG Table 233.2) Residential Dwelling Units

<table>
<thead>
<tr>
<th>NFPA Occupancy</th>
<th>ADAAG Requirements</th>
<th># of Type “A” Units Required</th>
<th>Type “B” Units Required When Total # of Units per Bldg.</th>
<th>Fair Housing Requirements HUD Section 504</th>
<th>Reduction in the Total # of “B” Units where there is No Elevator Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Board &amp; Care (Both Large &amp; Small) Health Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Home (Long term care)</td>
<td></td>
<td></td>
<td></td>
<td>Yes (See 12.33.2.1)</td>
<td>No</td>
</tr>
<tr>
<td>Hospital (General Purpose)</td>
<td></td>
<td></td>
<td></td>
<td>Yes (See 12.33.2.1)</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation Facilities (Conditions that affect Mobility)</td>
<td></td>
<td></td>
<td></td>
<td>Yes (See 12.33.2.1)</td>
<td></td>
</tr>
<tr>
<td>Hotel Lodging or Rooming Dormitories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transient</td>
<td></td>
<td></td>
<td></td>
<td>Yes (See 12.33.2.1)</td>
<td></td>
</tr>
<tr>
<td>Hotel Lodging or Rooming Dormitories &amp; Apartments</td>
<td></td>
<td></td>
<td></td>
<td>Yes (See 12.33.2.1)</td>
<td></td>
</tr>
<tr>
<td>One and Two Family dwelling</td>
<td></td>
<td></td>
<td></td>
<td>Yes (See 12.33.2.1)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Patients/ Clients generally stay for more than thirty days
2. General Facilities that do not specialize in treating conditions that affect mobility
3. Facilities that specialize in treating conditions that affect mobility
4. Occupants are generally charged by the day and stay for less than thirty days
5. Provisions for non-transient residential units with sleeping accommodations built by “public entities” including, but not limited to, state and local governments where not covered by the Fair Housing Act.
6. Type “A” units may be substituted for any Type “B” unit
7. Occupants are generally charged by the month and stay for more than thirty days
8. Where four or more units are within one building (i.e. are attached even if separated by fire walls) all units “covered” by the Fair Housing Act of 1968 as amended are required to be Type “B” units.
12.33.3 Residential Dwelling Units Provided by Entities Not Subject to HUD Section 504 Regulations. Facilities with residential dwelling units provided by entities not subject to regulations issued by the Department of Housing and Urban Development (HUD) under Section 504 of the Rehabilitation Act of 1973, as amended, shall comply with 12.33.3.1. (ADA/ABA-AG 233.3)

12.33.3.2 Residential Dwelling Units with Mobility Features. In facilities with residential dwelling units, at least 5 percent, but no fewer than one unit, of the total number of residential dwelling units shall provide mobility features complying with 12.45.5.2 through 12.45.5.5 and shall be on an accessible route as required by 12.33.3.1. (ADA/ABA-AG 233.3.2)

12.33.3.2.1 Residential Dwelling Units with Communication Features. In facilities with residential dwelling units, at least 2 percent, but no fewer than one unit, of the total number of residential dwelling units shall provide communication features complying with 12.45.5.6. (ADA/ABA-AG 233.3.2.1)

12.33.3.2.2 Residential Dwelling Units for Sale. Residential dwelling units offered for sale shall provide accessible features to the extent required by regulations issued by Federal agencies under the Americans with Disabilities Act or Section 504 of the Rehabilitation Act of 1973, as amended. (ADA/ABA-AG 233.3.2.2)

12.33.3.3 Additions. Where an addition to an existing building results in an increase in the number of residential dwelling units, the requirements of 12.33.3.1 shall apply only to the residential dwelling units that are added until the total number of residential dwelling units complies with the minimum number required by 12.33.3.1. Residential dwelling units required to comply with 12.33.3.1.1 shall be on an accessible route as required by 12.6. (ADA/ABA-AG 233.3.3)

12.33.3.4 Alterations. Alterations shall comply with 12.33.3.4. (ADA/ABA-AG 233.3.4)

EXCEPTION: Where compliance with 12.45.5.3, 12.45.5.4, or 12.45.5.5 is technically infeasible, or where it is technically infeasible to provide an accessible route to a residential dwelling unit, the entity shall be permitted to alter or construct a comparable residential dwelling unit to comply with 12.45.5.2 through 12.45.5.5 provided that the minimum number of residential dwelling units required by 12.33.3.1 and 12.33.3.1.2, as applicable, is satisfied. (ADA/ABA-AG 233.3.4, exception)

12.33.4.1 Alterations to Vacated Buildings. Where a building is vacated for the purposes of alteration, and the altered building contains more than 15 residential dwelling units, at least 5 percent of the residential dwelling units shall comply with 12.45.5.2 through 12.45.5.5 and shall be on an accessible route as required by 12.6. In addition, at least 2 percent of the residential dwelling units shall comply with 12.45.5.6. (ADA/ABA-AG 233.4.1)

12.33.4.2 Alterations to Individual Residential Dwelling Units. In individual residential dwelling units, where a bathroom or a kitchen is substantially altered, and at least one other room is altered, the requirements of 12.33.3.1 shall apply to the altered residential dwelling units until the total number of residential dwelling units complies with the minimum number required by 12.33.3.1 and 12.33.3.1.2. Residential dwelling units required to comply with 12.33.3.1.1 shall be on an accessible route as required by 12.6. (ADA/ABA-AG 233.4.2)

EXCEPTION: Where facilities contain 15 or fewer residential dwelling units, the requirements of 12.33.3.1.1 and 12.33.3.1.2 shall apply to the total number of residential dwelling units that are altered until the total number of residential dwelling units complies with the minimum number required by 12.33.3.1.1 and 12.33.3.1.2. Residential dwelling units required to comply with 12.33.3.1.1 shall be on an accessible route as required by 12.6. (ADA/ABA-AG 233.4.2, exception)

12.33.3.5 Dispersion. Residential dwelling units required to provide mobility features complying with 12.45.5.2 through 12.45.5.5 and residential dwelling units required to provide communication features complying with 12.45.5.6 shall be dispersed among the various types of residential dwelling units in the facility and shall provide choices of residential dwelling units comparable to, and integrated with, those available to other residents. (ADA/ABA-AG 233.3.5)

EXCEPTION: Where multi-story residential dwelling units are one of the types of residential dwelling units provided, any one story residential dwelling units shall be permitted as a substitute for multi-story residential dwelling units where equivalent spaces and amenities are provided in the one-story residential dwelling unit. (ADA/ABA-AG 233.3.5, exception)

12.34.1 General. Amusement rides shall comply with 12.34. (ADA/ABA-AG 234.1)

EXCEPTION: Mobile or portable amusement rides shall not be required to comply with 12.34. (ADA/ABA-AG 234.1, exception)

12.34.2 Load and Unload Areas. Load and unload areas serving amusement rides shall comply with 12.45.8.2.3. (ADA/ABA-AG 234.2)

12.34.3 Minimum Number. Amusement rides shall provide at least one wheelchair space complying with 12.45.8.2.4, or at least one amusement ride seat designed for transfer complying with 12.45.8.2.5, or at least one transfer device complying with 12.45.8.2.6. (ADA/ABA-AG 234.3)

EXCEPTIONS:
1. Amusement rides that are controlled or operated by the rider shall not be required to comply with 12.34.3. (ADA/ABA-AG 234.3, exception 1)
2. Amusement rides designed primarily for children, where children are assisted in boarding the ride by an adult, shall not be required to comply with 12.34.3. (ADA/ABA-AG 234.3, exception 2)
3. Amusement rides that do not provide amusement ride seats shall not be required to comply with 12.34.3. (ADA/ABA-AG 234.3, exception 3)

Table 12.35.2 (ADA/ABA-AG Table 235.2)

<table>
<thead>
<tr>
<th>Boat Slips</th>
<th>Total Number of Boat Slips</th>
<th>Minimum Number of Required Accessible Boat Slips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat Slips complying with 12.45.9.1</td>
<td>26 to 50</td>
<td>1</td>
</tr>
<tr>
<td>51 to 100</td>
<td>3 to 5</td>
<td></td>
</tr>
<tr>
<td>101 to 150</td>
<td>4 to 6</td>
<td></td>
</tr>
<tr>
<td>151 to 300</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>301 to 400</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>401 to 500</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>501 to 600</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>601 to 700</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>701 to 800</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>801 to 900</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>901 to 1000</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1001 and over</td>
<td>12, plus 1 for every 100, or fraction thereof over 1000</td>
<td></td>
</tr>
</tbody>
</table>
EXCEPTION: One break in the sequence of consecutive holes shall be permitted provided that the last hole on the miniature golf course is the last hole in the sequence. (ADA/ABA-AG 239.3, exception)

12.40 Play Areas (ADA/ABA-AG 240)

12.40.1 General. Play areas for children ages 2 and over shall comply with 12.40. Where separate play areas are provided within a site for specific age groups, each play area shall comply with 12.40. (ADA/ABA-AG 240.1)

EXCEPTIONS:
1. Play areas located in family child care facilities where the proprietor actually resides shall not be required to comply with 12.40. (ADA/ABA-AG 240.1, exception 1)
2. In existing play areas, where play components are relocated for the purposes of creating safe use zones and the ground surface is not altered or extended for more than one use zone, the play area shall not be required to comply with 12.40. (ADA/ABA-AG 240.1, exception 2)
3. Amusement attractions shall not be required to comply with 12.40. (ADA/ABA-AG 240.1, exception 3)

4. Where play components are altered and the ground surface is not altered, the ground surface shall not be required to comply with 12.45.2.6 unless required by 12.45.15.3. (ADA/ABA-AG 240.1)

12.40.1.1 Additions. Where play areas are designed and constructed in phases, the requirements of 12.40 shall apply to each successive addition so that when the addition is completed, the entire play area complies with all the applicable requirements of 12.40. (ADA/ABA-AG 240.1, exception)

12.40.2 Play Components. Where provided, play components shall comply with 12.40.2. (ADA/ABA-AG 240.2)

12.40.2.1 Ground Level Play Components. Ground level play components shall be provided in the number and types required by 12.40.2.1. Ground level play components that are provided to comply with 12.40.2.1.1 shall be permitted to satisfy the additional number required by 12.40.2.1.2 if the minimum required types of play components are satisfied. Where two or more required ground level play components are provided, they shall be dispersed throughout the play area and integrated with other play components. (ADA/ABA-AG 240.2.1)

12.40.2.1.1 Minimum Number and Types. Where ground level play components are provided, at least one of each type shall be on an accessible route and shall comply with 12.45.14.4. (ADA/ABA-AG 240.2.1.1)

12.40.2.1.2 Additional Number and Types. Where elevated play components are provided, ground level play components shall be provided in accordance with Table 12.40.2.1.2 and shall comply with 12.45.14.4. (ADA/ABA-AG 240.2.1.2)

<table>
<thead>
<tr>
<th>Number of Elevated Play Components Provided</th>
<th>Minimum Number of Ground Level Play Components Required to be on an Accessible Route</th>
<th>Minimum Number of Different Types of Ground Level Play Components Required to be on an Accessible Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 4</td>
<td>No applicable</td>
<td>No applicable</td>
</tr>
<tr>
<td>5 to 7</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8 to 10</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>11 to 16</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>17 to 19</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>20 to 25</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>26 and over</td>
<td>8 plus 1 for each additional 5, or fraction thereof, over 25</td>
<td>4</td>
</tr>
</tbody>
</table>

EXCEPTION: If at least 50 percent of the elevated play components are connected by a ramp that is at least 3 feet wide, the elevated play components connected by the ramp are different types of play components, the play area shall not be required to comply with 12.40.2.1.2. (ADA/ABA-AG 240.2.1.2, exception)

12.40.2.2 Elevated Play Components. Where elevated play components are provided, at least 50 percent shall be on an accessible route and shall comply with 12.45.14.4. (ADA/ABA-AG 240.2.2)

12.41 Saunas and Steam Rooms (ADA/ABA-AG 241)

12.41.1 General. Where provided, saunas and steam rooms shall comply with 806.1.1.1. (ADA/ABA-AG 241.1)

EXCEPTION: Where saunas or steam rooms are clustered at a single location, no more than 5 percent of the saunas and steam rooms, but no fewer than one, of each type in each cluster shall be required to comply with 12.41.1. (ADA/ABA-AG 241.1)

12.41.2 Bench. Where seating is provided in saunas and steam rooms, at least one bench shall comply with ICC/ANSI A117.1, Section 903. Doors shall not swing into the clear floor space required by ICC/ANSI A117.1. Section 903.2. (ADA/ABA-AG 241.2)

EXCEPTION: A readily removable bench shall be permitted to obstruct the turning space required by 12.41.3 and the clear floor or ground space required by ICC/ANSI A117.1. Section 903.2. (ADA/ABA-AG 241.2, exception)

12.41.3 Turning Space. A turning space complying with ICC/ANSI A117.1, Section 304 shall be provided within saunas and steam rooms. (ADA/ABA-AG 241.3)

12.42 Swimming Pools, Wading Pools, and Spas (ADA/ABA-AG 242)

12.42.1 General. Swimming pools, wading pools, and spas shall comply with 12.42. (ADA/ABA-AG 242.1)

12.42.2 Swimming Pools. At least two accessible means of entry shall be provided for swimming pools. Accessible means of entry shall be swimming pool lifts complying with 12.45.15.2; sloped entries complying with 12.45.15.2; and pool stairs complying with 12.45.15.6. At least one accessible means of entry provided shall comply with 12.45.15.2 or 12.45.15.3. (ADA/ABA-AG 242.2)

EXCEPTIONS:
1. Where a swimming pool has less than 300 linear feet (91 m) of swimming pool wall, no more than one accessible means of entry shall be required provided that the accessible means of entry is a swimming pool lift complying with 12.45.15.2 or sloped entry complying with 12.45.15.3. (ADA/ABA-AG 242.2, exception 1)
2. Wave action pools, leisure rivers, sand bottom pools, and other pools where user access is limited to one area shall not be required to provide more than one accessible means of entry provided that the accessible means of entry is a swimming pool lift complying with 12.45.15.3, or a transfer system complying with 12.45.15.5. (ADA/ABA-AG 242.2, exception 2)
3. Catch pools shall not be required to provide an accessible means of entry provided that the catch pool edge is on an accessible route. (ADA/ABA-AG 242.2, exception 3)

12.42.3 Wading Pools. At least one accessible means of entry shall be provided for wading pools. Accessible means of entry shall comply with sloped entries complying with 12.45.15.2; transfer walls complying with 12.45.15.4; or transfer systems complying with 12.45.15.5. (ADA/ABA-AG 242.3)

EXCEPTION: Where spas are provided in a cluster, no more than 5 percent, but no fewer than one, spa in each cluster shall be required to comply with 12.42.4. (ADA/ABA-AG 242.4, exception)

12.43 Shooting Facilities with Firing Positions (ADA/ABA-AG 243)

12.43.1 General. Where shooting facilities with firing positions are designed and constructed at a site, at least 5 percent, but no fewer than one, of each type of firing position shall comply with 12.45.15.1. (ADA/ABA-AG 243.1)

12.44 Technical Requirements:

12.44.1 General. Buildings and facilities that are required to be accessible shall comply with the requirements of ICC/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities.

12.44.2 Non-applicable requirements. The following technical requirement applies in lieu of the ICC/ANSI A117.1.1, section 605.2:

12.44.2.1 Height and Depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 13 1/2 inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture. (ADA and ABA Accessibility Guidelines for Buildings and Facilities, 2004 (ADA/ABA-AG))

12.45 Additional Technical Requirements. The following technical requirements apply in addition to the requirements of ICC/ANSI A117.1-2003:

12.45.1 Accessible Routes - Doors, Doorways, and Gates

12.45.1.1 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode. (ADA/ABA-AG 404.3.6)

12.45.2 Medical Care and Long-Term Care Facilities (ADA/ABA-AG 805)

12.45.2.1 General. Medical care facility and long-term care facility patient or resident sleeping rooms required to provide mobility features shall comply with 805. (ADA/ABA-AG 805.1)

12.45.2.2 Turning Space. Turning space complying with ICC/ANSI A117.1. Section 305 shall be provided within the room. (ADA/ABA-AG 805.2)

12.45.2.3 Clear Floor or Ground Space. A clear floor space complying with ICC/ANSI A117.1. Section 305 shall be provided on each side of the bed. The clear floor space shall be positioned for parallel approach to the side of the bed. (ADA/ABA-AG 805.3)

12.45.2.4 Toilet and Bathing Rooms. Toilet and bathing rooms that are provided as part of a patient or resident sleeping room shall comply with ICC/ANSI A117.1, Section 603. Where provided, no fewer than one water closet, one lavatory, and one bathtub or shower shall comply with the applicable requirements of ICC/ANSI A117.1. Section 603 through 610. (ADA/ABA-AG 805.4)

12.45.3 Transient Lodging Guest Rooms (ADA/ABA-AG 806)

12.45.3.1 General. (ADA/ABA-AG 806.1)

Transient lodging guest rooms shall comply with 806. Guest rooms required to provide mobility features shall comply with 806.2.
12.45.3.2 Guest Rooms with Mobility Features. Guest rooms required to provide mobility features shall comply with ICC/ANSI A117.1, Section 305 on both sides of a bed. The clear floor space shall be accessible. (ADA/ABA-AG 806.2.2, exception)

12.45.3.2.1 Living and Dining Areas. Living and dining areas shall be accessible. (ADA/ABA-AG 806.2.3)

12.45.3.2.2 Exterior Spaces. Exterior spaces, including patios, terraces and balconies, that serve the guest room shall be accessible. (ADA/ABA-AG 806.2.2)

12.45.3.2.3 Sleeping Areas. At least one sleeping area shall provide a clear floor space complying with ICC/ANSI A117.1, Section 305 on both sides of a bed. The clear floor space shall be positioned for parallel approach is provided between two beds, a clear floor space shall not be required on both sides of a bed. (ADA/ABA-AG 806.2.3, exception)

12.45.3.2.4 Toilet and Bathing Facilities. No fewer than one water closet, one lavatory, and one bathtub or shower shall comply with ICC/ANSI A117.1, Section 806.2.2. (ADA/ABA-AG 806.2.4)

12.45.3.2.4.1 Vanity Counter Top Space. If vanity counter top space is provided in non-accessible guest toilet or bathing rooms, comparable vanity counter top space, in terms of size and proximity to the lavatory, shall also be provided in accessible guest toilet or bathing rooms. (ADA/ABA-AG 806.2.4.1)

12.45.3.2.5 Kitchens and Kitchensettes. Kitchens and kitchensettes shall comply with ICC/ANSI A117.1, Section 806.3. (ADA/ABA-AG 806.2.5)

12.45.3.2.6 Turning Space. Turning space complying with ICC/ANSI A117.1, Section 304 shall be provided within the guest room. (ADA/ABA-AG 806.2.6)

12.45.3.3 Guest Rooms with Communication Features. Guest rooms required to provide communication features shall comply with ICC/ANSI A117.1, Section 806.3. (ADA/ABA-AG 806.2.7)

12.45.3.3.1 Alarms. Where emergency warning systems are provided, alarms complying with ICC/ANSI A117.1, Section 903 shall be provided. (ADA/ABA-AG 806.3)

12.45.3.3.2 Notification Devices. Visible notification devices shall be provided to alert room occupants of incoming telephone calls and a door knock or bell. Notification devices shall not be connected to visible alarm signal relay systems. (ADA/ABA-AG 806.3)

12.45.3.3.3 Alarm Systems. Telephones shall be served by an electrical outlet complying with ICC/ANSI A117.1, Section 809.2 located within 48 inches (1220 mm) of the telephone to facilitate the use of communication systems by the guest. (ADA/ABA-AG 806.3)

12.45.3.4 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode. (ADA/ABA-AG 806.3.1, exception)

EXCEPTION: Where manual swinging doors and gates comply with ICC/ANSI A117.1, Section 404.2 and serve the same means of egress compliance with 12.45.3.4.2 shall not be required. (ADA/ABA-AG 404.3.6, exception)

12.45.4 Holding Cells and Housing Cells. (ADA/ABA-AG 807.1)

12.45.4.1 General. Holding cells and housing cells shall comply with 12.45.4.1. (ADA/ABA-AG 807.1)

12.45.4.2 Cells with Mobility Features. Cells required to provide mobility features shall comply with ICC/ANSI A117.1, Section 12.45.4.2. (ADA/ABA-AG 807.2)

12.45.4.2.1 Turning Space. Turning space complying with ICC/ANSI A117.1, Section 304 shall be provided within the cell. (ADA/ABA-AG 807.2.1)

12.45.4.2.2 Storage. Where benches are provided, at least one bench shall comply with ICC/ANSI A117.1, Section 903. (ADA/ABA-AG 807.2.2)

12.45.4.2.3 Toilet and Bathing Facilities. Toilet facilities or bathing facilities that are provided as a part of a cell shall comply with ICC/ANSI A117.1, Section 603. Where provided, no fewer than one water closet, one lavatory, and one bathtub or shower shall comply with the applicable requirements of ICC/ANSI A117.1, Section 603 through 610. (ADA/ABA-AG 807.2.3)

12.45.5 Residential Dwelling Units. (ADA/ABA-AG 809.1)

12.45.5.1 General. Residential dwelling units shall comply with 12.45.5. (ADA/ABA-AG 809.2)

12.45.5.2 Residential dwelling units required to provide mobility features shall comply with 12.45.5.2 through 12.45.5.5. (ADA/ABA-AG 809.3)

12.45.5.2.1 Proposal. The same visible alarm appliances shall be provided as a part of the residential dwelling unit as part of the building fire alarm system, they shall comply with NFPA 72. (ADA/ABA-AG 809.5.1)

12.45.5.2.2 Activation. All visible alarm appliances provided within the residential dwelling unit for building fire alarm notification shall be activated upon activation of the building fire alarm in the portion of the building containing the residential dwelling unit. (ADA/ABA-AG 809.5.2)

12.45.5.2.3 Residential Dwelling Unit Smoke Detection System. Residential dwelling units required to provide communication features shall comply with NFPA 72 (ADA/ABA-AG 809.5.3)

12.45.5.2.4 Prohibited Use. Visible alarm appliances used to indicate residential dwelling unit smoke detection or building fire alarm activation shall not be used for any other purpose within the residential dwelling unit. (ADA/ABA-AG 809.5.4)

12.45.5.2.5 Identification. A means for visually identifying a visitor without opening the residential dwelling unit entry door shall be provided and shall allow for a minimum 180 degree range of view. (ADA/ABA-AG 809.5.5)

12.45.5.2.6 Site, Building, or Floor Entrance. Where a system, including a closed-circuit system, permitting voice communication between a visitor and the occupant of the residential dwelling unit is provided, the system shall comply with 12.45.5.6.6. (ADA/ABA-AG 809.5.6)

12.45.5.6.1 Common Use or Public Use System Interface. The common use or public use system interface shall include the capability of supporting voice and TTY communication with the residential dwelling unit interface. (ADA/ABA-AG 809.5.6.1)

12.45.5.6.2 Residential Dwelling Unit Interface. The residential dwelling unit system interface shall include a telephone jack capable of supporting voice and TTY communication with the common use or public use system interface. (ADA/ABA-AG 809.5.6.2)

12.45.5.6.3 Special Rooms, Spaces and Elements-Transportation Facilities (ADA/ABA-AG 810)

12.45.5.6.4 Platform and Vehicle Floor Coordination. Station platforms shall be positioned to coordinate with vehicles in accordance with the applicable requirements of 36 CFR Part 1192. Low-platform shall be 8 inches (205 mm) minimum above top of rail. (ADA/ABA-AG 810.5.3, exception)

12.45.5.6.5 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.4)

12.45.5.6.6.1 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.5)

12.45.5.6.6.2 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.6)

12.45.5.6.6.3 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.7)

12.45.5.6.6.4 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.8)

12.45.5.6.6.5 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.9)

12.45.5.6.6.6 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.10)

12.45.5.6.6.7 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.11)

12.45.5.6.6.8 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.12)

12.45.5.6.6.9 Roof, Floor, and Building Entrance. Roof, floor, and building entrance shall be provided. (ADA/ABA-AG 810.5.13)

12.45.5.7 Toilet Facilities and Bathing Facilities. At least one toilet facility and bathing facility shall comply with ICC/ANSI A117.1, Section 603 through 610. At least one of each type of fixture provided shall comply with ICC/ANSI A117.1, Section 809.2. (ADA/ABA-AG 809.6)

12.45.5.7.1 General. Toilet and bathing fixtures required to comply with ICC/ANSI A117.1, Section 603 through 610 shall be located in the same toilet and bathing area, such that travel between fixtures does not require travel between other parts of the residential dwelling unit. (ADA/ABA-AG 809.6)

12.45.5.8.1 General. Amusement rides shall comply with 12.45.8.1. (ADA/ABA-AG 809.8)

12.45.5.8.2.1 General. Amusement rides shall comply with 12.45.8.2.1. (ADA/ABA-AG 809.8.1)

12.45.5.8.2.2 General. Amusement rides serving amusement rides shall comply with ICC/ANSI A117.1, Chapter 4. (ADA/ABA-AG 809.8.2)
1. In load or unload areas and on amusement rides, where compliance with ICC/ANSI A117.1, section 405.2 is not structurally or operationally feasible, ramp slope shall be permitted to be 1:8 maximum. (ADA/ABA-AG 1002.4.3, exception 1)

2. In load or unload areas and on amusement rides, handrails provided along walking surfaces complying with ICC/ANSI A117.1, section 405 and required on ramps complying with ICC/ANSI A117.1, section 405 shall not be required to comply with ICC/ANSI A117.1, section 505 where compliance is not structurally or operationally feasible. (ADA/ABA-AG 1002.4.3, exception 2)

12.45.8.2.5 Amusement Ride Seats Designed for Transfer. Amusement ride seats designed for transfer shall comply with 12.45.8.2.5 when positioned for loading and unloading. (ADA/ABA-AG 1002.5)

12.45.8.2.5.1 Clear Floor or Ground Space. A clear floor or ground space complying with ICC/ANSI A117.1, section 304.3 shall be provided in the load and unload area adjacent to the amusement ride seat designed for transfer. (ADA/ABA-AG 1002.5.1)

12.45.8.2.5.2 Transfer Height. The height of amusement ride seats designed for transfer shall be 14 inches (355 mm) minimum and 24 inches (610 mm) maximum measured from the surface of the load and unload area. (ADA/ABA-AG 1002.5.2)

12.45.8.2.5.3 Transfer Entry. Where openings are provided for transfer to amusement ride seats, the clearances shall provide clearance for transfer from a wheelchair or mobility aid to the amusement ride seat. (ADA/ABA-AG 1002.5.3)

12.45.8.2.5.4 Wheelchair Storage Space. Wheelchair storage spaces complying with ICC/ANSI A117.1, section 305 shall be provided in or adjacent to load and unload areas for each required amusement ride seat designed for transfer and shall not overlap any required means of egress or accessible route. (ADA/ABA-AG 1002.5.4)

12.45.8.2.6 Transfer Devices for Use with Amusement Rides. Transfer devices for use with amusement rides shall comply with 12.45.8.2.6 when positioned for loading and unloading. (ADA/ABA-AG 1002.6)

12.45.8.2.6.1 Clear Floor or Ground Space. A clear floor or ground space complying with ICC/ANSI A117.1, section 305 shall be provided in the load and unload area adjacent to the transfer device. (ADA/ABA-AG 1002.6.1)

12.45.8.2.6.2 Transfer Height. The height of transfer device seats shall be 14 inches (355 mm) minimum and 24 inches (610 mm) maximum measured from the surface of the load and unload area. (ADA/ABA-AG 1002.6.2)

12.45.8.2.6.3 Wheelchair Storage Space. Wheelchair storage spaces complying with ICC/ANSI A117.1, section 305 shall be provided in or adjacent to load and unload areas for each required transfer device and shall not overlap any required means of egress or accessible route. (ADA/ABA-AG 1002.6.3)

12.45.9.2.1 Boat Slips. Accessible routes serving boat slips shall be permitted to use the exceptions in 12.45.9.2.1. (ADA/ABA-AG 1003.2.1)

EXCEPTIONS:
1. Where an existing gangway or series of gangways is replaced or altered, an increase in the length of the gangway shall not be required to comply with 12.45.9.2.1 unless required by 12.45.9.2.2. (ADA/ABA-AG 1003.2.1, exception 1)

2. Gangways shall not be required to comply with the maximum rise specified in ICC/ANSI A117.1, section 405.6. (ADA/ABA-AG 1003.2.1, exception 2)

3. Where the total length of a gangway or series of gangways serving as part of a required accessible route is 80 feet (24 m) minimum, gangways shall not be required to comply with ICC/ANSI A117.1, section 405.6. (ADA/ABA-AG 1003.2.1, exception 3)

4. Where facilities contain fewer than 25 boat slips and the total length of the gangway or series of gangways serving as part of a required accessible route is 30 feet (9145 mm) minimum, gangways shall not be required to comply with ICC/ANSI A117.1, section 405.2. (ADA/ABA-AG 1003.2.1, exception 4)

5. Where gangways connect to transition plates, landings specified by ICC/ANSI A117.1, section 405.7 shall not be required. (ADA/ABA-AG 1003.2.1, exception 5)

6. Where gangways and transition plates connect and are required to have handrails, handrail extensions shall not be required. Where handrail extensions are provided on gangways or transition plates, the handrail extensions shall not be required to be parallel with the ground or floor surface. (ADA/ABA-AG 1003.2.1, exception 6)

7. The cross slope specified in ICC/ANSI A117.1, section 403.3 and 405.3 for gangways, transition plates, and floating piers that are part of accessible routes shall be measured in the static position. (ADA/ABA-AG 1003.2.1, exception 7)

8. Changes in level complying with ICC/ANSI A117.1, section 303.3 and 303.4 shall be permitted on the surfaces of gangways and boat launch ramps. (ADA/ABA-AG 1003.2.1, exception 8)

12.45.9.2.2 Boarding Piers at Boat Launch Ramps. Accessible routes serving floating boarding piers at boat launch ramps shall be permitted to use the exceptions in 12.45.9.2.2. (ADA/ABA-AG 1003.2.2)

EXCEPTIONS:
1. Accessible routes serving floating boarding piers shall be permitted to use the exceptions in 12.45.9.2.1. (ADA/ABA-AG 1003.2.2, exception 1)

2. Where the total length of the gangway or series of gangways serving as part of a required accessible route is 30 feet (9145 mm) minimum, gangways shall not be required to comply with ICC/ANSI A117.1, section 405.2. (ADA/ABA-AG 1003.2.2, exception 2)
3. Where the accessible route serving a floating boarding pier or skid pier is located within a boat launch ramp, the portion of the accessible route located within the boat launch ramp shall not be required to comply with ICC/ANSI A117.1, section 405. (ADA/ABA-AG 1003.2, exception 3)

12.45.9.3 Clearances. Clearances at boat slips and on boarding piers at boat launch ramps shall comply with 12.45.9.3. (ADA/ABA-AG 1003.3)

12.45.9.3.1 Boat Slip Clearance. Boat slips shall provide clear pier space 60 inches (1525 mm) wide minimum and at least as long as the boat slips. Each 10 feet (3050 mm) maximum of linear pier edge serving boat slips shall contain at least one continuous clear opening 60 inches (1525 mm) wide minimum. (ADA/ABA-AG 1003.3.1)

EXCEPTIONS:
1. Clear pier space shall be permitted to be 36 inches (915 mm) wide minimum for a length of 24 inches (610 mm) maximum, provided that multiple 36 inch (915 mm) wide segments are separated by segments that are 60 inches (1525 mm) wide minimum and 60 inches (1525 mm) long minimum. (ADA/ABA-AG 1003.3.1, exception 1)
2. Edge protection shall be permitted at the continuous clear openings, provided that it is 4 inches (100 mm) high maximum and 2 inches (51 mm) wide maximum. (ADA/ABA-AG 1003.3.1, exception 2)
3. In existing piers, clear pier space shall be permitted to be located perpendicular to the boat slip and shall extend the width of the boat slip, where the facility has at least one boat slip complying with 12.45.9.3, and further compliance with 12.45.9.3 would result in a reduction in the number of boat slips available or result in a reduction of the widths of existing slips. (ADA/ABA-AG 1003.3.1, exception 3)

12.45.9.3.2 Boarding Pier Clearances. Boarding piers at boat launch ramps shall provide clear pier space 60 inches (1525 mm) wide minimum and shall extend the full length of the boarding pier. Every 10 feet (3050 mm) maximum of linear pier edge shall contain at least one continuous clear opening 60 inches (1525 mm) wide minimum. (ADA/ABA-AG 1003.3.2)

EXCEPTIONS:
1. The clear pier space shall be permitted to be 36 inches (915 mm) wide minimum for a length of 24 inches (610 mm) maximum provided that multiple 36 inch (915 mm) wide segments are separated by segments that are 60 inches (1525 mm) wide minimum and 60 inches (1525 mm) long minimum. (ADA/ABA-AG 1003.3.2, exception 1)
2. Edge protection shall be permitted at the continuous clear openings provided that it is 4 inches (100 mm) high maximum and 2 inches (51 mm) wide maximum. (ADA/ABA-AG 1003.3.2, exception 2)

12.45.9.10 Exercise Machines and Equipment (ADA/ABA-AG 1004)

12.45.9.10.1 Clear Floor Space. Exercise machines and equipment shall have a clear floor space complying with ICC/ANSI A117.1, Section 305 positioned for transfer or for use by an individual seated in a wheelchair. Clear floor or ground spaces required at exercise machines and equipment shall be permitted to overlap. (ADA/ABA-AG 1004.1)

12.45.11 Fishing Piers and Platforms (ADA/ABA-AG 1005)

12.45.11.1 Accessible Routes. Accessible routes serving fishing piers and platforms, including gangways and floating piers, shall comply with ICC/ANSI A117.1, Chapter 4. (ADA/ABA-AG 1005.1)
EXCEPTIONS:
1. Accessible routes serving floating fishing piers and platforms shall be permitted to use Exceptions 1, 2, 5, 6, 7, and 8 in 12.45.9.2.1. (ADA/ABA-AG 1005.1, exception 1)
2. Where the total length of the gangway or series of gangways serving as part of a required accessible route is 30 feet (9145 mm) minimum, gangways shall not be required to comply with ICC/ANSI A117.1, section 405.2. (ADA/ABA-AG 1005.1, exception 2)
3. Where provided, railings, guards, or handrails shall comply with 12.45.11.2. (ADA/ABA-AG 1005.2)
4. Where provided, railings, guards, or handrails shall comply with 12.45.11.2.1, a clear floor or ground space 60 inches (1525 mm) wide minimum shall be provided at the start of play. (ADA/ABA-AG 1007.2, exception 1)
5. Ramp landing size specified by ICC/ANSI A117.1, section 405.7.4 shall be permitted to use the exceptions in 12.45.13.2. (ADA/ABA-AG 1007.2)
6. Ramp landing length specified by ICC/ANSI A117.1, section 405.7.3 shall be permitted to be 48 inches (1220 mm) long minimum. (ADA/ABA-AG 1007.2, exception 5)
7. Ramp landing length specified by ICC/ANSI A117.1, section 405.7.4 shall be permitted to be 48 inches (1220 mm) minimum by 60 inches (1525 mm) minimum. (ADA/ABA-AG 1007.2, exception 6)

12.45.14 Play Areas

12.45.14.1 General. Play areas shall comply with 12.45.14. (ADA/ABA-AG 1008.1)

12.45.14.2 Accessible Routes. Accessible routes serving play areas shall comply with ICC/ANSI, Chapter 4 and 12.45.14.2 and shall be permitted to use the exceptions in 12.45.14.2.1 through 12.45.14.2.3. Where accessible routes serve ground level play components, the vertical clearance shall be 80 inches high (2030 mm) minimum. (ADA/ABA-AG 1008.2)

12.45.14.2.1 Ground Level and Elevated Play Components. Accessible routes serving ground level play components and elevated play components
shall be permitted to use the exceptions in 12.45.12.2.1. (ADA/ABA-AG 1008.2.1)

EXCEPTIONS:
1. Transfer systems complying with 12.45.14.3 shall be permitted to connect elevated play components except where 20 or more elevated play components are provided no more than 25 percent of the elevated play components shall be permitted to be connected by transfer systems. (ADA/ABA-AG 1008.2.1, exception 1)
2. Where transfer systems are provided, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route. (ADA/ABA-AG 1008.2.1, exception 2)

12.45.14.2.2 Soft Contained Play Structures. Accessible routes serving soft contained play structures shall be permitted to use the exceptions in 12.45.14.2.2. (ADA/ABA-AG 1008.2.2, exception)

12.45.14.2.3 Ground Level. Accessible routes serving wheelchair accessible routes shall be permitted to use the exceptions in 12.45.14.2.3. (ADA/ABA-AG 1008.2.3)

EXCEPTIONS:
1. Where the surface of the accessible route, clear floor or ground spaces, or turning spaces serving wheelchair accessible routes is submerged, compliance with ICC/ANSI A117.1, sections 302, 403.3, 405.2, 405.3, and 1008.2.6 shall not be required. (ADA/ABA-AG 1008.2.3, exception 1)
2. Transfer systems complying with 12.45.14.3 shall be permitted to connect elevated play components in water. (ADA/ABA-AG 1008.2.3, exception 2)

12.45.14.2.4 Clear Width. Accessible routes connecting play components shall provide a clear width complying with 12.45.14.2.4. (ADA/ABA-AG 1008.2.4)

12.45.14.2.4.1 Ground Level. At ground level, the clear width of accessible routes shall be 60 inches (1525 mm) minimum. (ADA/ABA-AG 1008.2.4.1)

EXCEPTIONS:
1. In play areas less than 1000 square feet (93 m²), the clear width of accessible routes shall be permitted to be 44 inches (1120 mm) minimum, if at least one transfer system complying with ICC/ANSI A117.1, Section 304.3 is provided where the restricted accessible route exceeds 30 feet (9145 mm) in length. (ADA/ABA-AG 1008.2.4.1, exception 1)
2. The clear width of accessible routes shall be permitted to be 36 inches (915 mm) minimum for a distance of 60 inches (1525 mm) maximum provided that multiple reduced width segments are separated by segments that are 60 inches (1525 mm) wide minimum and 60 inches (1525 mm) long minimum. (ADA/ABA-AG 1008.2.4.1, exception 2)

12.45.14.2.4.2 Elevated. The clear width of accessible routes connecting elevated play components shall be 36 inches (915 mm) minimum. (ADA/ABA-AG 1008.2.4.2)

EXCEPTIONS:
1. The clear width of accessible routes connecting elevated play components shall be permitted to be reduced to 32 inches (815 mm) minimum for a distance of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum. (ADA/ABA-AG 1008.2.4.2, exception 1)
2. The clear width of transfer systems connecting elevated play components shall be permitted to be 24 inches (610 mm) minimum. (ADA/ABA-AG 1008.2.4.2, exception 2)

12.45.14.2.5 Ramps. Within play areas, ramps connecting ground level play components and ramps connecting elevated play components shall comply with 12.45.14.2.5. (ADA/ABA-AG 1008.2.5)

12.45.14.2.5.1 Ground Level. Ramp runs connecting ground level play components shall have a running slope not steeper than 1:16. (ADA/ABA-AG 1008.2.5.1)

12.45.14.2.5.2 Elevated. The rise for any ramp run connecting elevated play components shall be 12 inches (305 mm) maximum. (ADA/ABA-AG 1008.2.5.2)

12.45.14.2.5.3 Handrails. Where required on ramps serving play components, the handrails shall comply with ICC/ANSI A117.1, section 505 except as modified by 1008.2.5.3. (ADA/ABA-AG 1008.2.5.3)

EXCEPTIONS:
1. Handrails shall not be required on ramps located within ground level use zones. (ADA/ABA-AG 1008.2.5.3, exception 1)
2. Handrail extensions shall not be required. (ADA/ABA-AG 1008.2.5.3, exception 2)

12.45.14.2.5.3.1 Handrail Gripping Surfaces. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 0.95 inch (24 mm) minimum and 1.55 inches (39 mm) maximum. Where the shape of the gripping surface is non-circular, the handrail shall provide an equivalent gripping surface. (ADA/ABA-AG 1008.2.5.3.1)

12.45.14.2.5.3.2 Handrail Height. The top of handrail gripping surfaces shall be 20 inches (510 mm) minimum and 28 inches (710 mm) maximum above the ramp surface. (1008.2.6. Ground Surfaces. Ground surfaces on accessible routes, clear floor or ground spaces, and turning spaces shall comply with 12.45.14.2.6. (ADA/ABA-AG 1008.2.5.3.2)

12.45.14.2.6 Ground Surfaces. Ground surfaces on accessible routes, clear floor or ground spaces, and turning spaces shall comply with 12.45.14.2.6. (ADA/ABA-AG 1008.2.5.3.2)

12.45.14.2.6.1 Accessibility. Ground surfaces shall comply with ASTM F 1951. Ground surfaces shall be inspected and maintained regularly and frequently to ensure continued compliance with ASTM F 1951. (ADA/ABA-AG 1008.2.6.1)

12.45.14.2.6.2 Use Zones. Ground surfaces located within use zones shall comply with ASTM F 1292. (ADA/ABA-AG 1008.2.6.2)

12.45.14.3 Transfer Systems. Where transfer systems are provided to connect to elevated play components, transfer systems shall comply with 12.45.14.3. (ADA/ABA-AG 1008.3)

12.45.14.3.1 Transfer Platforms. Transfer platforms shall be provided where transfer is intended from wheelchairs or other mobility aids. Transfer platforms shall comply with 12.45.14.3.1. (ADA/ABA-AG 1008.3.1)

12.45.14.3.1.1 Size. Transfer platforms shall have level surfaces 14 inches (355 mm) deep minimum and 24 inches (610 mm) wide minimum. (ADA/ABA-AG 1008.3.1.1)

12.45.14.3.1.2 Height. The height of transfer platforms shall be 11 inches (280 mm) minimum and 18 inches (455 mm) maximum measured to the top of the surface from the ground or floor surface. (ADA/ABA-AG 1008.3.1.2)

12.45.14.3.1.3 Transfer Space. A transfer space complying with ICC/ANSI A117.1, section 405.3 shall be provided adjacent to the transfer platform. The 48 inch (1220 mm) long minimum dimension of the transfer space shall be centered on and parallel to the 24 inch (610 mm) long minimum side of the transfer platform. The side of the transfer platform serving the transfer space shall be unobstructed. (ADA/ABA-AG 1008.3.1.3)

12.45.14.3.1.4 Transfer Supports. At least one means of support for transferring shall be provided. (ADA/ABA-AG 1008.3.1.4)

12.45.14.3.2 Transfer Steps. Transfer steps shall be provided where movement is intended from transfer platforms to levels with elevated play components required to be on accessible routes. Transfer steps shall comply with 12.45.14.3.2. (ADA/ABA-AG 1008.3.2)

12.45.14.3.2.1 Size. Transfer steps shall have level surfaces 14 inches (355 mm) deep minimum and 24 inches (610 mm) wide minimum. (ADA/ABA-AG 1008.3.2.1)

12.45.14.3.2.2 Height. Each transfer step shall be 8 inches (205 mm) high maximum. (ADA/ABA-AG 1008.3.2.2)

12.45.14.3.2 Transfer Supports. At least one means of support for transferring shall be provided. (ADA/ABA-AG 1008.3.2.3)
12.45.14.4 Play Components. Ground level play components on accessible routes and elevated play components connected by ramps shall comply with 12.45.14.4. (ADA/ABA-AG 1008.4)

12.45.14.4.1 Turning Space. At least one turning space complying with ICC/ANSI A117.1, Section 304 shall be provided on the same level as play components. Where swings are provided, the turning space shall be located immediately adjacent to the swing. (ADA/ABA-AG 1008.4.1)

12.45.14.4.2 Clear Floor or Ground Space. Clear floor or ground space complying with ICC/ANSI A117.1, Section 305.2 and 305.3 shall be provided at play components. (ADA/ABA-AG 1008.4.2)

EXCEPTION: Play tables designed and constructed primarily for children 5 years and younger shall not be required to provide knee clearance where the clear floor or ground space required by 1008.4.2 is arranged for a parallel approach. (ADA/ABA-AG 1008.4.3)

12.45.14.4.4.1 Seat Location. Where play components require transfer to entry points or seats, the entry points or seats shall be 11 inches (280 mm) minimum and 24 inches (610 mm) maximum from the clear floor or ground space. (ADA/ABA-AG 1008.4.4)

EXCEPTION: Entry points of slides shall not be required to comply with 12.45.14.4.4. (ADA/ABA-AG 1008.4.4, exception)

12.45.14.4.5 Transfer Supports. Where play components require transfer to entry points or seats, at least one means of support for transferring shall be provided. (ADA/ABA-AG 1008.4.5)

12.45.15 Swimming Pools, Wading Pools, and Spas (ADA/ABA-AG 1009)

12.45.15.1 General. Where provided, pool lifts, sloped entries, transfer walls, transfer systems, and pool stairs shall comply with 12.45.15. (ADA/ABA-AG 1009.1)

12.45.15.2 Pool Lifts. Pool lifts shall comply with 12.45.15.2. (ADA/ABA-AG 1009.2)

12.45.15.2.1 Seat Height. The height of the lift seat shall be designed to allow a stop at 16 inches (405 mm) minimum to 19 inches (485 mm) maximum measured from the deck to the top of the seat surface when in the raised (load) position. (ADA/ABA-AG 1009.2.4)

EXCEPTION: Footrests shall not be required on pool lifts provided in spas. (ADA/ABA-AG 1009.2.6)

12.45.15.2.2 Submerged Depth. The lift shall be designed so that the seat will submerge to a water depth of 18 inches (455 mm) minimum below the stationary water level. (ADA/ABA-AG 1009.2.8)
12.45.15.2.9 Lifting Capacity. Single person pool lifts shall have a weight capacity of 300 pounds. (136 kg) minimum and be capable of sustaining a static load of at least one and a half times the rated load. (ADA/ABA-AG 1009.2.9)

12.45.15.3 Sloped Entries. Sloped entries shall comply with 12.45.15.3. (ADA/ABA-AG 1009.3)

12.45.15.3.1 Sloped Entries. Sloped entries shall comply with ICC/ANSI A117.1, section Chapter 4 except as modified in 12.45.15.3.1 through 12.45.15.3.3. (ADA/ABA-AG 1009.3.1)

EXCEPTION: Where sloped entries are provided, the surfaces shall not be required to be slip resistant. (ADA/ABA-AG 1009.3.1, exception)

12.45.15.3.2 Submerged Depth. Sloped entries shall extend to a depth of 24 inches (610 mm) minimum and 30 inches (760 mm) maximum below the stationary water level. Where landings are required by ICC/ANSI A117.1, section 405.7, at least one landing shall be located 24 inches (610 mm) minimum and 30 inches (760 mm) maximum below the stationary water level. (ADA/ABA-AG 1009.3.2)

EXCEPTION: In wading pools, the sloped entry and landings, if provided, shall extend to the deepest part of the wading pool. (ADA/ABA-AG 1009.3.2, exception)

12.45.15.3.3 Handrails. At least two handrails complying with ICC/ANSI A117.1, section 505 shall be provided on the sloped entry. The clear width between required handrails shall be 33 inches (840 mm) minimum and 38 inches (965 mm) maximum. (ADA/ABA-AG 1009.3.3)

EXCEPTIONS:
1. Handrail extensions specified by ICC/ANSI A117.1, section 505.10.1 shall not be required at the bottom landing serving a sloped entry. (ADA/ABA-AG 1009.3.3, exception 1)
2. Where a sloped entry is provided for wave action pools, leisure rivers, sand bottom pools, and other pools where user access is limited to one area, the handrails shall not be required to comply with the clear width requirements of 12.45.15.3.3. (ADA/ABA-AG 1009.3.3, exception 2)
3. Sloped entries in wading pools shall not be required to provide handrails complying with 1009.3.3. If provided, handrails on sloped entries in wading pools shall not be required to comply with ICC/ANSI A117.1, section 505. (ADA/ABA-AG 1009.3.3, exception 3)
12.45.15.4.2 Height. The height of the transfer wall shall be 16 inches (405 mm) minimum and 19 inches (485 mm) maximum measured from the deck.

\[(\text{ADA/ABA-AG 1009.4.2})\]

![Figure 12.45.15.4.2](image)

Figure 12.45.15.4.2 (ADA/ABA-AG Figure 1009.4.2)
Transfer Wall Height

12.45.15.4.3 Wall Depth and Length. The depth of the transfer wall shall be 12 inches (305 mm) minimum and 16 inches (405 mm) maximum. The length of the transfer wall shall be 60 inches (1525 mm) minimum and shall be centered on the clear deck space.

\[(\text{ADA/ABA-AG 1009.4.3})\]

![Figure 12.45.15.4.3](image)

Figure 12.45.15.4.3 (ADA/ABA-AG Figure 1009.4.3)
Depth and Length of Transfer Walls

12.45.15.4.4 Surface. Surfaces of transfer walls shall not be sharp and shall have rounded edges.

\[(\text{ADA/ABA-AG 1009.4.4})\]

12.45.15.4.5 Grab Bars. At least one grab bar complying with ICC/ANSI A117.1, section 609 shall be provided on the transfer wall. Grab bars shall be perpendicular to the pool wall and shall extend the full depth of the transfer wall. The top of the gripping surface shall be 4 inches (100 mm) minimum and 6 inches (150 mm) maximum above transfer walls. Where one grab bar is provided, clearance shall be 24 inches (610 mm) minimum on both sides of the grab bar. Where two grab bars are provided, clearance between grab bars shall be 24 inches (610 mm) minimum. (ADA/ABA-AG 1009.4.5)

\[\text{EXCEPTION:} \text{ Grab bars on transfer walls shall not be required to comply with ICC/ANSI A117.1, section 609.4. (ADA/ABA-AG 1009.4.5, exception)}\]

![Figure 12.45.15.4.5](image)

Figure 12.45.15.4.5 (ADA/ABA-AG Figure 1009.4.5)
Grab Bars for Transfer Walls

12.45.15.5 Transfer Systems. Transfer systems shall comply with 12.45.14.5. (ADA/ABA-AG 1009.5)

12.45.15.5.1 Transfer Platform. A transfer platform shall be provided at the head of each transfer system. Transfer platforms shall provide 19 inches (485 mm) minimum clear depth and 24 inches (610 mm) minimum clear width.

\[(\text{ADA/ABA-AG 1009.5.1})\]

![Figure 12.45.15.5.1](image)

Figure 12.45.15.5.1 (ADA/ABA-AG Figure 1009.5.1)
Size of Transfer Platform

12.45.15.5.2 Transfer Space. A transfer space of 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum with a slope not steeper than 1:48 shall be provided at the base of the transfer platform surface and shall be centered along a 24 inch (610 mm) minimum side of the transfer platform. The side of the transfer platform serving the transfer space shall be unobstructed.

\[(\text{ADA/ABA-AG 1009.5.2})\]

![Figure 12.45.15.5.2](image)
12.45.15.5.3 Height. The height of the transfer platform shall comply with 12.45.15.4.2. (ADA/ABA-AG 1009.5.3)

12.45.15.5.4 Transfer Steps. Transfer step height shall be 8 inches (205 mm) maximum. The surface of the bottom tread shall extend to a water depth of 18 inches (455 mm) minimum below the stationary water level. (ADA/ABA-AG 1009.5.4)

Figure 12.45.15.5.4 (ADA/ABA-AG Figure 1009.5.4) Transfer Steps

12.45.15.5.5 Surface. The surface of the transfer system shall not be sharp and shall have rounded edges. (ADA/ABA-AG 1009.5.5)

12.45.15.5.6 Size. Each transfer step shall have a tread clear depth of 14 inches (355 mm) minimum and 17 inches (430 mm) maximum and shall have a tread clear width of 24 inches (610 mm) minimum. (ADA/ABA-AG 1009.5.6)

Figure 12.45.15.5.6 (ADA/ABA-AG Figure 1009.5.6) Size of Transfer Steps

12.45.15.5.7 Grab Bars. At least one grab bar on each transfer step and the transfer platform or a continuous grab bar serving each transfer step and the transfer platform shall be provided. Where a grab bar is provided on each step, the tops of gripping surfaces shall be 4 inches (100 mm) minimum and 6 inches (150 mm) maximum above step and transfer platform. Where a continuous grab bar is provided, the top of the gripping surface shall be 4 inches (100 mm) minimum and 6 inches (150 mm) maximum above the step nosing and transfer platform. Grab bars shall comply with 609 and be located on at least one side of the transfer system. The grab bar located at the transfer platform shall not obstruct transfer. (ADA/ABA-AG 1009.5.7)

EXCEPTION: Grab bars on transfer systems shall not be required to comply with ICC/ANSI A117.1, section 609.4. (ADA/ABA-AG 1009.5.7, exception)

12.45.15.6 Pool Stairs. Pool stairs shall comply with 12.45.15.6. (ADA/ABA-AG 1009.6)

12.45.15.6.1 Pool Stairs. Pool stairs shall comply with ICC/ANSI A117.1, section 504. (ADA/ABA-AG 1009.6.1)

EXCEPTION: Pool step riser heights shall not be required to be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum provided that riser heights are uniform. (ADA/ABA-AG 1009.6.1, exception)

12.45.15.6.2 Handrails. The width between handrails shall be 20 inches (510 mm) minimum and 24 inches (610 mm) maximum. Handrail extensions required by ICC/ANSI A117.1, section 505.10.3 shall not be required on pool stairs. (ADA/ABA-AG 1009.6.2)

12.45.16 Shooting Facilities with Firing Positions (ADA/ABA-AG 1010)

12.45.16.1 Turning Space. A circular turning space 60 inches (1525 mm) diameter minimum with slopes not steeper than 1:48 shall be provided at shooting facilities with firing positions. (ADA/ABA-AG 1010.1)

SUBSTANTIATION: The committee has used all of the scoping requirements from ADA/ABA-AG, 7-23-2004, all the technical requirements of ICC/ANSI A117.1-2003 with the exception of 605.2 that has been replaced by the text from 605.2 of ADA/ABA-AG 7-23-2004 and all the technical requirements contained in ADA/ABA-AG 7-23-2004 that are not contained in A117.1-2003. 5000-359a (Log #CC351) also added new references to Chapter 2 and new and/or revised definitions to Chapter 3 appropriate for use with the new Chapter 12 created by this comment.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 13 Negative: 1
BALLOT NOT RETURNED: 6 AMBRERE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE
EXPLANATION OF NEGATIVE: MCELVANEY: An Accessibility Advisory Committee that reports to the NFPA president does not solve the problem. Chapter 12 is a very complex chapter that requires its own TC.

The subcommittee that worked on the new Chapter 12, worked hard but it had a goal to get the new Chapter 12 out for review before the ROC. The only group that has seen the new Chapter 12 is the committee. We will not have any public comments. I feel based on the rewrite Chapter 12 needs to be reviewed by the public.
COMMITTEE STATEMENT: relating to Chapter 12 and has made changes through Committee Comment 5000-180.

COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: The committee gave consideration to the comment in its action on 5000-358 Committee Comment 5000-359a (Log #CC351) and thought it more important to be consistent with the language in ADA/ABA-AG.
NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 14
BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

5000-362 Log #218 BLD-BSY FINAL ACTION: Accept (12.7.2.7)
COMMENT ON PROPOSAL NO: 5000-571
RECOMMENDATION: Revise text to read:
12.7.2.7 Reserve elevators serving.
SUBSTANTIATION: To correct terminology. Elevators in a single dwelling unit may be private residence elevators, LU/LA elevators etc. The generic term ‘elevators’ is more appropriate in the context used.
SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-583

RECOMMENDATION: Coordinate the expression of the numbers and percentages for certain features. For example, 12.11.1.1.1 states: “…provided, at least 5 percent, but not less than one of each…” This rejected proposal appears to be attempting to coordinate the existing language.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject

SUBSTANTIATION: The committee gave consideration to the comment and did not make additional changes in it’s action on 5000-359 and Committee Comments 5000-359a (Log #CC351), 5000-98c (Log #CC352), and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE


COMMENT ON PROPOSAL NO: 5000-584

RECOMMENDATION: Coordinate the expression of the numbers and percentages for certain features. For example, 12.11.1.1.1 states: “…provided, at least 5 percent, but not less than one of each…” This rejected proposal appears to be attempting to coordinate the existing language.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject

COMMITTEE MEETING ACTION: The committee gave consideration to the comment and did not make additional changes in it’s action on 5000-359 and Committee Comments 5000-359a (Log #CC351), 5000-98c (Log #CC352), and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-586

RECOMMENDATION: Coordinate the expression of the numbers and percentages for certain features. For example, 12.11.1.1.1 states: “…provided, at least 5 percent, but not less than one of each…” This rejected proposal appears to be attempting to coordinate the existing language.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE MEETING ACTION: The committee gave consideration to the comment and did not make additional changes in it’s action on 5000-359 and Committee Comments 5000-359a (Log #CC351), 5000-98c (Log #CC352), and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE
COMMITTEE STATEMENT: BALLOT NOT RETURNED: NUMBER ELIGIBLE TO VOTE: 20 with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

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COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

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COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

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COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

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COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.

RONDINELLI, SIEGEL, VAN BECelaERE

COMMITTEE STATEMENT: BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 20 and 5000-126a (Log #CC353) and thought it more important to be consistent with the language in ADA/ABA-AG.
COMMITTEE STATEMENT:
A category of code (such as mechanical code, fire code, or elevator code) is
NUMBER ELIGIBLE TO VOTE: 23
NACHEMAN: See my Affirmative with Comment on 5000-4.
JONES: See my Explanation of Abstention on Comment 5000-4.

BALLOT RESULTS:
NUMBER ELIGIBLE TO VOTE: 27
 subsidy: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

(Chapter 15)

Where the intended meaning is “in the situation in which,” the correct word is “where.” The word “when” always involves time, meaning “during the time at which” or “at what time.” These meanings are indicated in dictionaries of the English language.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-183 Log #264 BLD-FUN FINAL ACTION: Reject
(14.6)
SUBMITTER: John C. Harrington, FM Global

COMMENT ON PROPOSAL NO: 5000-597
RECOMMENDATION: Add new text to read:
14.6 Ignition Sources. Flame cutting shall not be used in combustible
buildings under construction or being demolished. This would include any
cutting through combustible walls, floors, or roofs.
SUBSTANTIATION: This will help control potential ignition sources that
could result in serious property damage and impact personnel safety during
building construction and demolition.
COMMITTEE MEETING ACTION: Reject
COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Replace the word “when” with the word “where” in
the following sections of Chapter 15:
15.1.3.2, 15.1.2.4, 15.4.2.9, 15.4.2.3(2), 15.4.2.10, 15.4.7.1.2, 15.4.2.7.1, 15.4.2.7.2, 15.5.2.1.1, 15.5.2.1.2, 15.5.2.3.1, 15.5.5.4.1, 15.5.5.4.3, 15.5.5.4.4, 15.6.2.1.4(A), 15.6.2.1.4(10)(A), 15.6.2.5.6, 15.6.2.7.1, 15.6.2.7.2, 15.6.2.8.1, 15.6.2.8.2, 15.6.2.9.1, 15.7.3.3.3, 15.7.3.4.6, 15.7.3.5.1.1, 15.7.3.5.1.2(1), 15.7.3.6.2, 15.7.3.8.1(1D), 15.7.3.8.2, 15.7.3.9.2, 15.7.3.9.3.2, 15.7.3.9.3.6, 15.9.4.5, 15.9.5.6, 15.9.5.8.2, and 15.9.5.9.13.
SUBSTANTIATION: Where the intended meaning is “in the situation in
which,” the correct word is “where.” The word “when” always involves time,
meaning “during the time at which” or “at what time.” These meanings are
indicated in dictionaries of the English language.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE:
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-385 Log #346a BLD-FUN FINAL ACTION: Accept
(15.1.1.2 and 15.1.1.3 (New))
SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Modify 15.1.1.2 and insert a new 15.1.1.3 as
follows:
15.1.1.2 Nothing in this chapter shall be interpreted as requiring the repair,
renovation, modification or reconstruction of existing buildings, provided that
no unsafe condition is present as described in 1.7.5.3.1.1 and 1.7.5.3.1.2.
15.1.1.3 Damaged buildings or buildings where unsafe conditions are present shall be corrected in accordance with the requirements provided in Section 15.9.

Renumber remainder section.

SUBSTANTIATION: The Task Group on Structural Rehabilitation recommends the insertion of this language as a pointer to the list of unsafe conditions in Chapter 1 and the new requirements for correction of damaged or unsafe buildings in Section 15.9. The previous edition of the code did not clearly state to what standard unsafe buildings were to be corrected.

Please note, the Task Group on Structural Rehabilitation developed coordinate changes for Chapter 1 as well.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-386 Log #346b BLD-FUN FINAL ACTION: Accept
(15.1.1.2 and 15.1.1.3 (New))
SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Modify 15.1.1.2 and insert a new 15.1.1.3 as
follows:
15.1.1.2 Nothing in this chapter shall be interpreted as requiring the repair,
renovation, modification or reconstruction of existing buildings, provided that
no unsafe condition is present as described in 1.7.5.3.1.1 and 1.7.5.3.1.2.
15.1.1.3 Damaged buildings or buildings where unsafe conditions are present shall be corrected in accordance with the requirements provided in Section 15.9.

Renumber remainder section.

SUBSTANTIATION: The Task Group on Structural Rehabilitation recommends the insertion of this language as a pointer to the list of unsafe conditions in Chapter 1 and the new requirements for correction of damaged or unsafe buildings in Section 15.9. The previous edition of the code did not clearly state to what standard unsafe buildings were to be corrected.

Please note, the Task Group on Structural Rehabilitation developed coordinate changes for Chapter 1 as well.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN
EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-387 Log #437a BLD-FUN  FINAL ACTION: Accept in Principle
(15.1.1.4 (New) )

SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Insert a new section 15.1.1.4 as follows:
15.1.1.4 Nothing in this chapter shall be interpreted as excluding the use of
Chapter 5.
Renumber remaining section.

SUBSTANTIATION: The Task Group on Structural Rehabilitation
recommends the insertion of this language to clarify that the performance based
design option in Chapter 5 can be used for building rehabilitation.

COMMITTEE MEETING ACTION: Accept in Principle
Insert a new 15.1.1.4 to read:
15.1.1.4 Nothing in this chapter shall be interpreted as excluding the use of
the performance-based option of Chapter 5.

COMMITTEE STATEMENT: The committee action does what the
commenter requested but also adds the words “the performance-based option” so
the reader knows immediately, without having to reference Chapter 5, that the
subject relates to using the performance-based option.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-388 Log #437b BLD-STR  FINAL ACTION: Accept in Principle
(15.1.1.4 (New) )

SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Insert a new section 15.1.1.4 as follows:
15.1.1.4 Nothing in this chapter shall be interpreted as excluding the use of
Chapter 5.
Renumber remaining section.

SUBSTANTIATION: The Task Group on Structural Rehabilitation
recommends the insertion of this language to clarify that the performance based
design option in Chapter 5 can be used for building rehabilitation.

COMMITTEE MEETING ACTION: Accept in Principle
Insert a new 15.1.1.4 to read:
15.1.1.4 Nothing in this chapter shall be interpreted as excluding the use of
the performance-based option of Chapter 5.

COMMITTEE STATEMENT: The committee action does what the
commenter requested but also adds the words “the performance-based option” so
the reader knows immediately, without having to reference Chapter 5, that the
subject relates to using the performance-based option.

NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-390 Log #438b BLD-STR  FINAL ACTION: Accept
(15.1.1.7 and 15.1.1.8 (New) )
SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Insert a new section 15.1.1.7 and 15.1.1.8 as follows:
15.1.1.7 Except for repair in accordance with Section 15.3, all new work
shall comply with the materials and methods requirements. (See 3.3.341,
Materials and Methods Requirements.)
15.1.1.8 Unless specifically required in this chapter, parts of the existing
building outside of the rehabilitation work area shall not be required to comply
with the requirements of this Code for new construction.

SUBSTANTIATION: The Task Group on Structural Rehabilitation
used the language in 15.1.1.7 from 15.4.1.2. This provision is administrative in nature
and should be located in Section 15.1. Additionally, some renovations will
require work outside the rehabilitation work area, therefore the language in
15.1.1.8 has been added.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-391 Log #439a BLD-FUN  FINAL ACTION: Accept in Principle
(15.1.2.2.1 (New) )

TCC Action: The Technical Correlating Committee (TCC) directs that
this action be changed from ACCEPT TO “ACCEPT IN PRINCIPLE – See
Comment 5000-392 as the action by BLD-STR on that comment makes an
additional change.”
SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Insert a new section 15.1.2.2.1 as follows:
15.1.2.2.1 Alternative Seismic Compliance. Where this chapter requires
compliance with the seismic design provisions of Chapter 35, the use of FEMA
356 shall be permitted. Where FEMA 356 is used, the seismic performance
criteria shall be as indicated in Table 15.1.2.2.1 for the assigned occupancy
category.

Table 15.1.2.2.1* Seismic Performance Criteria

<table>
<thead>
<tr>
<th>Occupancy Category (Table 35.3)</th>
<th>FEMA 356 Performance Level</th>
<th>BSE-1 Earthquake Hazard Level</th>
<th>BSE-2 Earthquake Hazard Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Safety (LS)</td>
<td>Collapse Prevention (CP)</td>
<td>Collapse Prevention (CP)</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Life Safety (LS)</td>
<td>Note (a)</td>
<td>Note (a)</td>
</tr>
<tr>
<td>III</td>
<td>Immediate Occupancy (IO)</td>
<td>Life Safety (LS)</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Values for Occupancy Category III performance levels shall be taken as
halfway between the values specified for Occupancy Categories II and IV.
b: BSE-1 and BSE-2 hazards are as defined in FEMA 356.

Annex Note to Table 15.1.2.2.1. Use of FEMA 356 requires the selection of a
target building performance level at a specified earthquake hazard level. In
most parts of the country, BSE-1 is consistent with the ASCE-7 design level
earthquake, and BSE-2 is consistent with the Maximum Considered Earthquake
(MCE).

SUBSTANTIATION: The Task Group on Structural Rehabilitation
recommends the insertion of this language in 15.1.2.2.1. Nonconforming
structural detailing and lack of element ductility in existing buildings make
seismic design provisions for new buildings difficult to apply to existing
buildings. The 2003 edition of NFPA 5000 does not reference the latest
standards for seismic evaluation and seismic rehabilitation of existing
buildings.

FEMA 356 is a prestandard written in mandatory language that is a
performance-based document intended to apply to the wide spectrum of
existing building stock. It was developed specifically to address the
characteristics of existing buildings, and provides a performance-based
methodology for seismic design that incorporates existing structural elements.
It is currently the only mandatory language document to address the seismic
rehabilitation of buildings in general.

Use of FEMA 356 requires the selection of a target building performance
level at a specified earthquake hazard level; BSE-1 is consistent with the
ASCE-7 design level earthquake, and BSE-2 is consistent with the Maximum
Considered Earthquake (MCE). The proposed change provides a correlation
between NFPA Occupancy Categories and the performance levels defined in
FEMA 356. It provides a technically sound alternative to current procedures in
which new code provisions are applied to nonconforming existing buildings,
and is intended to result in an equivalent level of safety.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-599 Log #437a BLD-STR  FINAL ACTION: Accept
(15.1.1.7 and 15.1.1.8 (New) )
Note (a)

Life Safety (LS)

Note (a)

Immediate Occupancy (IO)

Note (a)

Life Safety (LS)

a. Values for Occupancy Category III performance levels shall be taken as halfway between the values specified for Occupancy Categories II and IV.
b. BSE-1 and BSE-2 hazards are as defined in FEMA 356.

Annex Note to Table 15.1.2.3.1. Use of FEMA 356 requires the selection of a target building performance level at a specified earthquake hazard level. In most parts of the country, the earthquake hazard in ASCE 31 and the BSE-1 are consistent with the Maximum Considered Earthquake (MCE). The proposed change provides a correlation between NFPA Occupancy Categories and performance levels defined in FEMA 356. It provides a technically sound alternative to current procedures in which new code provisions are applied to nonconforming existing buildings, and is intended to result in an equivalent level of safety.

COMMITTEE MEETING ACTION: Accept in Principle

In addition to the modification to 15.1.2.2.1, insert the following reference into Table 15.1.2.3.1. Nonconforming structural detailing and lack of element ductility in existing buildings make seismic design provisions for new buildings difficult to apply to existing buildings. The 2003 edition of NFPA 5000 does not reference the latest standards for seismic evaluation and seismic rehabilitation of existing buildings.

FEMA 356 is a prestandard written in mandatory language that is a performance-based document intended to apply to the wide spectrum of existing building stock. It was developed specifically to address the characteristics of existing buildings, and provides a performance-based methodology for seismic design that incorporates existing structural elements. It is currently the only mandatory language document to address the seismic rehabilitation of buildings in general.

Use of FEMA 356 requires the selection of a target building performance level at a specified earthquake hazard level. BSE-1 is consistent with the ASCE-7 design level earthquake, and BSE-2 is consistent with the Maximum Considered Earthquake (MCE). The proposed change provides a correlation between NFPA Occupancy Categories and performance levels defined in FEMA 356. It provides a technically sound alternative to current procedures in which new code provisions are applied to nonconforming existing buildings, and is intended to result in an equivalent level of safety.

COMMITTEE MEETING ACTION: Accept in Principle

In addition to the modification to 15.1.2.2.1, insert the following reference into Table 15.1.2.3.1. Nonconforming structural detailing and lack of element ductility in existing buildings make seismic design provisions for new buildings difficult to apply to existing buildings. The 2003 edition of NFPA 5000 does not reference the latest standards for seismic evaluation and seismic rehabilitation of existing buildings.

FEMA 356 is a prestandard written in mandatory language that is a performance-based document intended to apply to the wide spectrum of existing building stock. It was developed specifically to address the characteristics of existing buildings, and provides a performance-based methodology for seismic design that incorporates existing structural elements. It is currently the only mandatory language document to address the seismic rehabilitation of buildings in general.

Use of FEMA 356 requires the selection of a target building performance level at a specified earthquake hazard level. BSE-1 is consistent with the ASCE-7 design level earthquake, and BSE-2 is consistent with the Maximum Considered Earthquake (MCE). The proposed change provides a correlation between NFPA Occupancy Categories and performance levels defined in FEMA 356. It provides a technically sound alternative to current procedures in which new code provisions are applied to nonconforming existing buildings, and is intended to result in an equivalent level of safety.

COMMITTEE MEETING ACTION: Accept in Principle

In addition to the modification to 15.1.2.2.1, insert the following reference into Table 15.1.2.3.1. Nonconforming structural detailing and lack of element ductility in existing buildings make seismic design provisions for new buildings difficult to apply to existing buildings. The 2003 edition of NFPA 5000 does not reference the latest standards for seismic evaluation and seismic rehabilitation of existing buildings.

FEMA 356 is a prestandard written in mandatory language that is a performance-based document intended to apply to the wide spectrum of existing building stock. It was developed specifically to address the characteristics of existing buildings, and provides a performance-based methodology for seismic design that incorporates existing structural elements. It is currently the only mandatory language document to address the seismic rehabilitation of buildings in general.

Use of FEMA 356 requires the selection of a target building performance level at a specified earthquake hazard level. BSE-1 is consistent with the ASCE-7 design level earthquake, and BSE-2 is consistent with the Maximum Considered Earthquake (MCE). The proposed change provides a correlation between NFPA Occupancy Categories and performance levels defined in FEMA 356. It provides a technically sound alternative to current procedures in which new code provisions are applied to nonconforming existing buildings, and is intended to result in a level of safety consistent with reduced seismic criteria traditionally used in practice.

COMMITTEE MEETING ACTION: Accept in Principle

In addition to the modification to 15.1.2.2.1, insert the following reference into Table 15.1.2.3.1. Nonconforming structural detailing and lack of element ductility in existing buildings make seismic design provisions for new buildings difficult to apply to existing buildings. The 2003 edition of NFPA 5000 does not reference the latest standards for seismic evaluation and seismic rehabilitation of existing buildings.

FEMA 356 is a prestandard written in mandatory language that is a performance-based document intended to apply to the wide spectrum of existing building stock. It was developed specifically to address the characteristics of existing buildings, and provides a performance-based methodology for seismic design that incorporates existing structural elements. It is currently the only mandatory language document to address the seismic rehabilitation of buildings in general.

Use of FEMA 356 requires the selection of a target building performance level at a specified earthquake hazard level. BSE-1 is consistent with the ASCE-7 design level earthquake, and BSE-2 is consistent with the Maximum Considered Earthquake (MCE). The proposed change provides a correlation between NFPA Occupancy Categories and performance levels defined in FEMA 356. It provides a technically sound alternative to current procedures in which new code provisions are applied to nonconforming existing buildings, and is intended to result in a level of safety consistent with reduced seismic criteria traditionally used in practice.

COMMITTEE MEETING ACTION: Accept in Principle
SUBSTANTIATION: The Task Group on Structural Rehabilitation recommends the insertion of this language in 15.1.2.3.1. Nonconforming structural detailing and lack of element ductility in existing buildings make seismic design provisions for new buildings difficult to apply to existing buildings. The 2003 edition of NFPA 5000 does not reference the latest standards for seismic evaluation and seismic rehabilitation of existing buildings.

In some cases, seismic upgrade may be triggered by rehabilitation work, but full compliance with the current code has not traditionally been required by jurisdictions with such provisions in effect. For these cases, a reduced seismic criteria alternative has been provided that is consistent with traditional minimum levels of safety used in seismic design practice (i.e., life-safety for standard occupancy structures).

ASCE 31 is a consensus standard and FEMA 356 is a prestandard written in mandatory language. This is a performance-based document intended to apply to the wide spectrum of existing building stock. They were developed specifically to address the characteristics of existing buildings, and provide a performance-based methodology for seismic design that incorporates existing structural elements. They are currently the only mandatory language documents to address seismic evaluation and rehabilitation of buildings in general.

The use of ASCE 31 and FEMA 356 requires the selection of a target building performance level at a specified earthquake hazard level. The earthquake hazard in ASCE 31 and the BSE-2 is complete consistent with the Maximum Considered Earthquake (MCE). The proposed change provides a correlation between NFPA Occupancy Categories and performance levels as defined in ASCE 31 and FEMA 356. It provides a technically sound alternative to current procedures in which new code provisions are applied to nonconforming existing buildings, and is intended to result in a level of safety consistent with reduced seismic criteria traditionally used in practice.

COMMITTEE MEETING ACTION: Accept in Principle

In addition to the modification to 15.1.2.3.1, insert the following references into Chapter 2:

COMMITTEE STATEMENT: The Technical Committee added the correct reference for Chapter 2 and noted that, while FEMA 356 is not yet an ANSI document, it is the only document available in mandatory language covering this topic. The Technical Committee also notes that the next edition of FEMA 356 will be ASCE 41, which is scheduled for completion before the next edition of NFPA 5000.

Please note, the change to Chapter 2 has been incorporated into the Committee Recommendation on Comment 5000-98b (LOG #CC14).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: Insert a new section 15.1.5 as follows:

15.1.5 Structural Evaluation. A structural evaluation shall be performed and submitted to the AHJ where required for renovation, modification, or reconstruction work, or where a change in use or occupancy results in an increase in the defined Occupancy Category, per Table 35.3, or where required for damaged or unsafe buildings in accordance with Section 15.9.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: Insert a new section 15.1.5 as follows:

15.1.5 Structural Evaluation. A structural evaluation shall be performed and submitted to the AHJ where required by this chapter for renovation, modification, or reconstruction work, or where a change in use or occupancy results in an increase in the defined Occupancy Category, per Table 35.3, or where required for damaged or unsafe buildings in accordance with Section 15.9.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: Modify 15.2.2.1 as follows: (15.2.2.1) Repair. Repair shall be defined as the patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment or fixtures in good or sound condition. Repair shall not include work that is covered by Section 15.9. (See Section 15.7.3)

COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: Modify 15.2.2.1 as follows: (15.2.2.1) Repair. Repair shall be defined as the patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment or fixtures in good or sound condition. Repair shall not include work that is covered by Section 15.9. (See Section 15.7.3)

COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: Modify 15.2.2.1 as follows: (15.2.2.1) Repair. Repair shall be defined as the patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment or fixtures in good or sound condition. Repair shall not include work that is covered by Section 15.9. (See Section 15.7.3)

COMMITTEE MEETING ACTION: Accept

SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: Modify 15.2.2.1 as follows: (15.2.2.1) Repair. Repair shall be defined as the patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment or fixtures in good or sound condition. Repair shall not include work that is covered by Section 15.9. (See Section 15.7.3)
COMMITTEE MEETING ACTION: Accept

RECOMMENDATION: Modify 15.2.2.3 as follows:

15.2.2.3 Modification. Modification shall be defined as the reconfiguration of any space, the addition or elimination of any door or window, the addition or elimination of load bearing elements, the reconfiguration or extension of any system, or the installation of any additional equipment. (See Section 15.5.)

SUBSTANTIATION: The Task Group on Structural Rehabilitation agreed that the addition or elimination of load bearing elements should be categorized as a modification, and not a renovation. This is comparable to the requirements for other systems. Please note, addition of load bearing elements has been recommended by the Task Group for removal from 15.2.2.2 on Renovation.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

SUBJECT: 15.2.2.3 Modification

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

REPORT ON COMMENTS

NACHEMAN: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

SUBJECT: 15.2.2.3 Modification

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

REPORT ON COMMENTS

NACHEMAN: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.
SUBMITTER: The Task Group on Structural Rehabilitation has recommended the insertion of a Section 15.9. These are editorial modifications that correct the references to the section on historic buildings.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

EXPLANATION OF ABSTENTION:
NACHMAN: See my Affirmative with Comment on 5000-4.

5000-407 Log #480 BLD-FUN
FINAL ACTION: Accept in Principle
(15.3.1.1)


COMMENT ON PROPOSAL NO: 5000-598

RECOMMENDATION: Revise as follows:

The requirements of 15.3.1.1 shall not apply as otherwise modified in Section 15.9 for repairs in historic buildings. 15.3.1.2 Repairs in historic buildings shall comply with one of the following:

(A) 15.3.1.1 as modified by 15.9 (Historic Buildings)

SUBSTANTIATION: Text was revised to eliminate the exception. The intent of the revised text is not clear. The herein supplied revision to the proposed text clearly states the requirement.

COMMITTEE MEETING ACTION: Accept in Principle

RECOMMENDATION: Revise as follows:

15.3.1.1 Repair in other than historic buildings shall comply with the requirements of Section 15.3, unless otherwise provided in 15.3.1.2. (See 3.3.453, Repairs.)

15.3.1.2 The requirement of 15.3.1.1 shall not apply as otherwise modified in Section 15.9 for repairs in historic buildings. Repair in historic buildings shall comply with the requirements of one of the following:

(1) Section 15.3

(2) Section 15.3 as modified by Section 15.10

COMMITTEE STATEMENT: The committee action text does what the commenter requested but more clearly outlines the requirements that are to apply. Note that the reference to Section 15.10 is meant to be the renumbered section on historic buildings which in NFPA 5000-2003 appears as Section 15.9.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-408 Log #481 BLD-FUN
FINAL ACTION: Accept in Principle
(15.4.1.1)


COMMENT ON PROPOSAL NO: 5000-598

RECOMMENDATION: Revise as follows:

The requirement of 15.4.1.1 shall not apply as otherwise modified in Section 15.9 for repairs in historic buildings. 15.4.1.2 Renovations in historic buildings shall comply with one of the following:

(A) 15.4

(B) 15.4 as modified by 15.9 (Historic Buildings)

SUBSTANTIATION: Text was revised to eliminate the exception. The intent of the revised text is not clear. The herein supplied revision to the proposed text clearly states the requirement.

COMMITTEE MEETING ACTION: Accept in Principle

RECOMMENDATION: Revise as follows:

15.4.1.1 Renovation in other than historic buildings shall comply with the requirements of Section 15.4, unless otherwise provided in 15.4.1.2. (See 3.3.453, Renovation.)

15.4.1.2 The requirement of 15.4.1.1 shall not apply as otherwise modified in Section 15.9 for repairs in historic buildings. Renovation in historic buildings shall comply with the requirements of one of the following:

(1) Section 15.4

(2) Section 15.4 as modified by Section 15.10

COMMITTEE STATEMENT: The committee action text does what the commenter requested but more clearly outlines the requirements that are to apply. Note that the reference to Section 15.10 is meant to be the renumbered section on historic buildings which in NFPA 5000-2003 appears as Section 15.9.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-409 Log #447a BLD-FUN
FINAL ACTION: Accept
(15.4.1.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Delete 15.4.1.3:

15.4.1.3 All new work shall comply with the materials and methods requirements. (See 3.3.341, Materials and Methods Requirements.)

SUBSTANTIATION: The Task Group on Structural Rehabilitation moved the language in 15.1.1.7 from 15.4.1.2. This provision is administrative in nature and should be located in Section 15.1.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-410 Log #447b BLD-STR
FINAL ACTION: Accept
(15.4.1.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Delete 15.4.1.3:

15.4.1.3 All new work shall comply with the materials and methods requirements. (See 3.3.341, Materials and Methods Requirements.)

SUBSTANTIATION: The Task Group on Structural Rehabilitation moved the language in 15.1.1.7 from 15.4.1.2. This provision is administrative in nature and should be located in Section 15.1.

COMMITTEE MEETING ACTION: Accept

EXPLANATION OF ABSTENTION:
NACHMAN: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHMAN: See my Affirmative with Comment on 5000-4.

5000-410a Log #CC7 BLD-STR
FINAL ACTION: Accept
(15.4.2.9(1) and 15.4.2.9.3 (2))

SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Change 15.4.2.9(1) and 15.4.2.9.3 (2) to read as follows:

15.4.2.9(1) The existing roof covering is not one of the types identified in 38.2.12.

15.4.2.9.3 (2) A noncombustible or limited-combustible material is applied directly over the existing roof covering when it is not one of the types identified in 38.2.12.

SUBSTANTIATION: These changes coordinate with the newly reorganized Chapter 38.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
NACHMAN: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHMAN: See my Affirmative with Comment on 5000-4.

5000-411 Log #448a BLD-FUN
FINAL ACTION: Accept
(15.4.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Modify 15.4.3 as follows:

15.4.3 Structural Requirements.

15.4.3.1 Structural Design Criteria.

15.4.3.1.1 Changes to structural elements shall be classified as incidental structural changes where they result in:

(1) no greater than a 10 percent increase in loads to any structural element, and

(2) no greater than a 10 percent increase in code specified lateral forces to any story, and

(3) no greater than a 10 percent decrease in the total lateral strength of any story.

15.4.3.1.2 The minimum design loads for incidental structural changes to structure shall be designed to resist the loads applicable at the time the building was constructed, provided that no structurally deficient condition is created.
15.4.3.1.3 Structural changes that are more than incidental and shall be designed to resist the minimum design loads defined in Chapter 35.

15.4.3.2 Structurally Unsafe Elements. Structural elements that are discovered to be structurally unsafe during the course of the modification and that are found to be unsafe or structurally deficient shall be rectified to meet the load requirements of Chapter 35 and the applicable material stress requirements of Chapter 41 (concrete), Chapter 42 (aluminum), Chapter 43 (masonry), Chapter 44 (steel), Chapter 45 (wood), or Chapter 46 (glass) evaluated and, where necessary, corrected in accordance with Section 15.9.

SUBSTANTIATION: In 15.4.3.1, the Task Group on Structural Rehabilitation has introduced the concept and the requirements of incidental structural changes here in renovations. This concept is similar to the requirement found in 15.8.4.2 on additions, but has been expanded to cover a broader range of existing buildings, and, therefore, has been further relaxed from 5 percent to 10 percent. There is a precedent in ASCE 7-05 for the 10 percent value.

In 15.4.3.2, the Task Group on Structural Rehabilitation further modified 15.4.3 to require a structural evaluation and to reference the new Section 15.9 on Damaged or Unsafe Buildings. COMMITTEE MEETING ACTION: Accept.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-412 Log #448 BLD-STR FINIAL ACTION: Accept (15.4.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL: NO: 5000-598

RECOMMENDATION: Revise 15.4.3 as follows:

A) 15.4.3 Structural Requirements.
B) 15.4.3.1 Structural Design Criteria.
C) 15.4.3.1.1 Changes to structural elements shall be classified as incidental structural changes where they result in:
   (1) no greater than a 10 percent increase in loads to any structural element, and
   (2) no greater than a 10 percent increase in code specified lateral forces to any story, and
   (3) no greater than a 10 percent decrease in the total lateral strength of any story.
D) 15.4.3.2 The minimum design loads for structural changes the structure shall be designed to resist the live loads applicable at the time the building was constructed, provided that no structurally deficient condition is created.
E) 15.4.3.3 Structural changes that are more than incidental shall be designed to resist the minimum design loads defined in Chapter 35.
F) 15.4.3.4 Structurally Unsafe Elements. Structural elements that are discovered to be structurally unsafe during the course of the modification and that are found to be unsafe or structurally deficient shall be rectified to meet the load requirements of Chapter 35 and the applicable material stress requirements of Chapter 41 (concrete), Chapter 42 (aluminum), Chapter 43 (masonry), Chapter 44 (steel), Chapter 45 (wood), or Chapter 46 (glass) evaluated and, where necessary, corrected in accordance with Section 15.9.

SUBSTANTIATION: In 15.4.3.1, the Task Group on Structural Rehabilitation has introduced the concept and the requirements of incidental structural changes here in renovations. This concept is similar to the requirement found in 15.8.4.2 on additions, but has been expanded to cover a broader range of existing buildings, and, therefore, has been further relaxed from 5 percent to 10 percent. There is a precedent in ASCE 7-05 for the 10 percent value.

In 15.4.3.2, the Task Group on Structural Rehabilitation further modified 15.4.3 to require a structural evaluation and to reference the new Section 15.9 on Damaged or Unsafe Buildings. COMMITTEE MEETING ACTION: Accept.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WIREN

EXPLANATION OF ABSTENTION: Jones. See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-413 Log #448 BLD-STR FINIAL ACTION: Accept (15.5.1.1)


COMMENT ON PROPOSAL: NO: 5000-598

RECOMMENDATION: Revise as follows:

The requirement of 15.5.1.1 shall not apply as otherwise modified in Section 15.9 for repairs in historic buildings. 15.5.1.2 Modifications in historic buildings shall comply with one of the following:

(A) 15.5
(B) 15.5 as modified by 15.9 (Historic Buildings)

SUBSTANTIATION: Text was revised to eliminate the exception. The intent of the revised text is not clear. The herein supplied revision to the purposed text clearly states the requirement.

COMMITTEE MEETING ACTION: Accept in Principle

REVISE AS FOLLOWS: 15.5.1.1 General Modifications. Modification in other than historic buildings shall comply with the requirements of Section 15.5 unless otherwise provided in 15.5.1.2. (See 3.3.3.2, Modification.)

15.5.1.2 The requirement of 15.5.1.1 shall not apply as otherwise modified in Section 15.9 for repairs in historic buildings. Modification in historic buildings shall comply with the requirements of one of the following:

(1) Section 15.5
(2) Section 15.5 as modified by Section 15.10

COMMITTEE STATEMENT: The committee action text does what the committee has requested but more clearly outlines the requirements that are to apply. Note that the reference to Section 15.10 is meant to be the renumbered section on historic buildings which in NFPA 5000-2003 appears as Section 15.9.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-414 Log #449 BLD-FUN FINIAL ACTION: Accept (15.5.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL: NO: 5000-599

RECOMMENDATION: As modified by 15.5.3 as follows:

15.5.3 Structural Requirements (Reserved)
15.5.3.1 Structural Design Criteria.
15.5.3.1.1 Incidental structural changes to the structure per 15.4.3.1.1 shall be designed to resist the loads applicable at the time the building was constructed, provided that no more than incidental per 15.4.3.1.1 shall be designed to resist the minimum design loads defined in Chapter 35, except as permitted by 15.5.3.1.2.1, 15.5.3.1.2.2, or 15.5.3.1.3.
15.5.3.1.2.1 Seismic loads shall be permitted to be 75 percent of those otherwise required in this Code.
15.5.3.1.2.2 Use of the alternative seismic requirements in 15.1.2.3.1 shall be permitted.
15.5.3.2 Substantial Changes.
15.5.3.2.1 Where the modification work area is greater than 50 percent of the floor area of any story of the building or structure and structural changes are more than incidental, per 15.4.3.1.1, a structural evaluation of the portion affected by the structural changes shall be conducted.
15.5.3.2.2 Where structural changes are more than incidental per 15.4.3.1.1, the AHJ shall be permitted to require structural evaluation of portions of modification work not subject to the requirements of 15.5.3.2.1.
15.5.3.3.1 A building or structure shall be determined to have substantial structural irregularity where either of the following conditions is present:
1. The total strength of a structural element, or group of elements, supporting more than 30 percent of the structure’s vertical loads will be changed by more than 25 percent from the original condition, or
2. The combined lateral stiffness of structural elements in any story will be changed by more than 20 percent from its original condition.
15.5.3.3.2 Voluntary Lateral Force Resisting System Modifications. Unless a structural evaluation is submitted demonstrating that the safety of the building or structure has not been reduced, voluntary lateral force resisting system modifications shall comply with the following:
1. The capacity of existing structural elements shall not be reduced
2. Lateral forces applied to existing structural elements shall not be increased beyond their capacity to resist those forces
3. The work does not create a structural irregularity or make an existing irregularity more severe, and
4. New structural elements are detailed and constructed in accordance with this Code.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed these structural requirements for modifications. In particular, this new section builds on the requirements of the incidental structural changes by adding a section which defines and provides additional requirements for modifications that are substantial in nature. The added sections use a stepped approach in the regulation of structural changes. Within the modification section three separate levels of structural requirements are delimited. The Task Group on Structural Rehabilitation has preserved the original intent of the Chapter 15. The proposed change requires structural upgrade to be in compliance with Chapter 35 when the level of structural work is significant enough (substantial). There is precedent in other model codes for requiring structural upgrades at this level of work. However, except where specifically warranted (i.e., change in use/occupancy), seismic upgrade has traditionally been set at a minimum level of safety that is less than current code. This section sets the minimum
seismic criterion at 75 percent of Code, and refers to the alternative seismic requirements defined in a previous section. In 15.5.3.1.3 and 15.5.3.3, the purpose of these changes is to provide a mechanism to allow voluntary seismic or wind upgrade to a user-defined (AHJ approved) criterion, without triggering mandatory compliance with any other specific structural criteria defined in this Code, whether it be the code at the time the building was constructed (as for incidental structural changes), this Code, or reduced seismic criteria defined in this Code (as for substantial structural changes).

The voluntary limitations are intentionally more stringent than the definition of incidental structural changes because the intent of these provisions is to encourage improvement in the lateral force resisting system. Reductions in existing lateral force resisting strength and stiffness should be analyzed to demonstrate that the change results in improved performance.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2

**AFFIRMATIVE VOTES:** 21

**WATS:** 5

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5000-416 Log #483 BLD-FUN

**FINAL ACTION:** Accept in Principle (15.6.1.1)

**SUBMITTER:** Eric N. Mayl, Koffell Associates, Inc.

**COMMENT ON PROPOSAL NO:** 5000-598

**RECOMMENDATION:** Revise as follows:

15.6.1.1 Reconstruction in other than historic buildings (see 3.3.445, Reconstructed) shall comply with the requirements of Section 15.6, unless otherwise provided in 15.6.1.2. (see 3.3.445, Reconstruction.)

15.6.1.2 The requirement of 15.6.1.1 shall not apply as otherwise modified in Section 8.12 when there is a change of occupancy and the same logic should be applied. Note that the reference to Section 15.10 is meant to be the renumbered section on historic buildings which in NFPA 5000-2003 appears as Section 15.9.

**BALLOT NOT RETURNED:** 5

**BALLOT NOT RETURNED:** 2

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The committee action text does what the commenter requested but more clearly outlines the requirements that are to apply. Note that the reference to Section 15.10 is meant to be the renumbered section on historic buildings which in NFPA 5000-2003 appears as Section 15.9.

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2

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5000-417 Log #392 BLD-FUN

**FINAL ACTION:** Reject (15.6.2.3.3.4 (New))

**SUBMITTER:** Gregory J. Cahanin, Cahanin Fire & Code Consulting / Rep. Building Performance Research Institute

**COMMENT ON PROPOSAL NO:** 5000-612

**RECOMMENDATION:** Add a new section to read as follows:

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The 50 percent criterion proposed by the submitter is not an appropriate threshold for requiring application of a floor smoke barrier requirement. It would unfairly force tearing up the remainder of the floor for which no rehabilitation is taking place. The effect of the proposed

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**SUBMITTER:** Gregory J. Cahanin, Cahanin Fire & Code Consulting / Rep. Building Performance Research Institute

**COMMENT ON PROPOSAL NO:** 5000-612

**RECOMMENDATION:** Add a new section to read as follows:

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The 50 percent criterion proposed by the submitter is not an appropriate threshold for requiring application of a floor smoke barrier requirement. It would unfairly force tearing up the remainder of the floor for which no rehabilitation is taking place. The effect of the proposed
change would be to require work beyond the intended work area, and the resulting disruption is unwarranted.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-418 Log #484 BLD-FUN  FINAL ACTION: Accept in Principle
(15.7.1.2)

COMMENT ON PROPOSAL NO: 5000-598
RECOMMENDATION: Revise as follows:

The requirement of 15.7.1.2 shall not apply as otherwise modified in Section 15.7.2.2.4.2 for repairs in historic buildings. 15.7.1.2.2.1 Change of use or change of occupancy classification in historic buildings shall comply with one of the following:

(A) 15.7.2
(B) 15.7.1.2 as modified by 15.9 (Historic Buildings)

SUBSTANTIATION: Text was revised to eliminate the exception. The intent of the revised text is not clear. The herein supplied revision to the purposed text clearly states the requirement.

COMMITTEE MEETING ACTION: Accept in Principle
Revise as follows:

15.7.1.2 Change of Occupancy. The occupancy classification of an existing building or structure shall be permitted to be changed, provided that the building or structure meets all the requirements of Section 15.6, applied throughout the building for the new occupancy classification, and the requirements of 15.7.2 and 15.7.3, unless otherwise provided in 15.7.1.2.2.

15.7.1.2.1 Compliance with all the provisions of Section 15.6 shall not be required where the change of use complies with the requirements of 15.7.3.4.

15.7.1.2.2 The requirement of 15.7.1.2 shall not apply as otherwise modified in Section 15.7.2.2.4.2 for repairs in historic buildings. Change of occupancy classification in historic buildings shall comply with the requirements of one of the following:

(A) 15.7.2
(B) 15.7.1.2 as modified by Section 15.10

COMMITTEE STATEMENT: The committee action text more clearly outlines the requirements that are to apply. Note that the reference to Section 15.10 is meant to be the renumbered section on historic buildings which in NFPA 5000-2003 appears as Section 15.9.

Rather than referencing all of Section 15.7 in a general way, the revised text of 17.1.2.2.2 specifically references 15.7.1.2 which provides the correct roadmap of requirements.

The commenter’s language related to “change of use” cannot be accepted because 15.7.1.2 through 15.7.1.2.2 deal only with change of occupancy. Paragraph 15.7.1.1, dealing with change of use, makes no reference to historic buildings. Such additional language would need to be recommended for the next revision cycle. At that time, 15.9.5.3 should be changed to refer to “change of occupancy” instead of the current language “change of use.”

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-419 Log #450a BLD-FUN  FINAL ACTION: Accept
(15.7.2.2.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Modify 15.7.2.2.3 as follows:

15.7.2.2.3* Wind and Snow Loads. Where a change of use results in an existing building being assigned a higher occupancy category in accordance with 15.7.2.2.4, the building or affected portion shall be strengthened to meet the snow load or wind load requirements of Section 35.8 and Section 35.9.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this modification to clarify the requirement.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-420 Log #450b BLD-STR  FINAL ACTION: Accept
(15.7.2.2.3)

SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Modify 15.7.2.2.3 as follows:

15.7.2.2.3* Wind and Snow Loads. Where a change of use results in an existing building being assigned a higher occupancy category in accordance with 15.7.2.2.4, the building or affected portion shall be strengthened to meet the snow load or wind load requirements of Section 35.8 and Section 35.9.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this modification to clarify the requirement.

COMMITTEE MEETING ACTION: Accept

5000-421 Log #451a BLD-FUN  FINAL ACTION: Accept
(15.7.2.2.4)

SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Modify 15.7.2.2.4 as follows:

15.7.2.2.4* Earthquake Seismic Loads.

15.7.2.2.4.1 Where a change of use results in an existing building being reclassified to a higher occupancy category, other than occupancy Category I, as shown in Table 35.3, the building shall be strengthened to meet the earthquake seismic requirements of Section 35.10, unless otherwise provided in 15.7.2.2.4.2.

15.7.2.2.4.2 For buildings located in seismic map areas having an effective spectral response acceleration parameter at short periods (v1) value of less than 0.4533, strengthening the building to meet the seismic requirements for new buildings shall be required only where the change of use results in a building being reclassified to risk Category IV (highest). All other buildings so located shall not be required to be strengthened, but shall be shown to not be unsafe, as defined in Section 15.9.2.

SUBSTANTIATION: The Task Group on Structural Rehabilitation recommends the use of “seismic” instead of “earthquake”, as ASCE 7 (2004) will refer to “seismic” provisions instead of earthquake loads. Also, the changes in 15.7.2.2.4.2 correct the requirement. The “effective peak velocity-related design acceleration value is outdated terminology. This language updates the requirement so that they are consistent with ASCE 7-02 and ASCE 7-05 terminology.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-422 Log #451b BLD-STR  FINAL ACTION: Accept
(15.7.2.2.4)

SUBMITTER: David S. Collins, The Preview Group, Inc.
COMMENT ON PROPOSAL NO: 5000-599
RECOMMENDATION: Modify 15.7.2.2.4 as follows:

15.7.2.2.4* Earthquake Seismic Loads.

15.7.2.2.4.1 Where a change of use results in an existing building being reclassified to a higher occupancy category, other than occupancy Category I, as shown in Table 35.3, the building shall be strengthened to meet the earthquake seismic requirements of Section 35.10, unless otherwise provided in 15.7.2.2.4.2.

15.7.2.2.4.2 For buildings located in seismic map areas having an effective spectral response acceleration parameter at short periods (v1) value of less than 0.4533, strengthening the building to meet the seismic requirements for new buildings shall be required only where the change of use results in a building being reclassified to risk Category IV (highest). All other buildings so located shall not be required to be strengthened, but shall be shown to not be unsafe, as defined in Section 15.9.2.

SUBSTANTIATION: The Task Group on Structural Rehabilitation recommends the use of “seismic” instead of “earthquake”, as ASCE 7 (2004) will refer to “seismic” provisions instead of earthquake loads. Also, the changes in 15.7.2.2.4.2 correct the requirement. The “effective peak velocity-related design acceleration value is outdated terminology. This language updates the requirement so that they are consistent with ASCE 7-02 and ASCE 7-05 terminology.

COMMITTEE MEETING ACTION: Accept
SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-238

RECOMMENDATION: Modify 15.8.2.2 as follows:

15.8.2.2 In filling of floor openings, nonoccupiable appendages such as elevator and exit stair shafts, and the addition of mezzanines and equipment roof top structures, the addition shall not impose loads that would cause the existing building or structure by more than 5 percent cumulative since original construction, except as permitted by 15.8.4.2.

An addition shall not impose loads that would cause the existing building or structure by more than 5 percent cumulative since original construction, except as permitted by 15.8.4.2.

An addition shall not impose loads that would cause the existing building or structure by more than 5 percent cumulative since original construction, unless the increased load on the element remains in compliance with this Code.

SUBSTANTIATION: This section has been refocused to better guide the user on the interaction between the new addition and the existing building.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-229

RECOMMENDATION: Modify 15.8.4 as follows:

15.8.4.1 Unless the structural element remains in compliance with this Code, the addition shall not increase the stresses in any structural element of the existing building or structure by more than 5 percent cumulative since original construction, except as permitted by 15.8.4.2.

15.8.4.2 An addition shall not increase the stress in any structural element of the existing building or structure by more than 5 percent, unless the increased load on the element remains in compliance with Chapter 35 for new structures.

An addition shall not increase the stress in any structural element of the existing building or structure by more than 5 percent cumulative since original construction, unless the element remains in compliance with this Code.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-242

RECOMMENDATION: Modify 15.8.4 as follows:

15.8.4.1 Unless the element remains in compliance with this Code, the addition shall not increase the stresses in any structural element of the existing building or structure by more than 5 percent cumulative since original construction, except as permitted by 15.8.4.2.

15.8.4.2 An addition shall not increase the stress in any structural element of the existing building or structure by more than 5 percent, unless the increased load on the element remains in compliance with Chapter 35 for new structures.

An addition shall not increase the stress in any structural element of the existing building or structure by more than 5 percent cumulative since original construction, unless the element remains in compliance with this Code.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Modify 15.8.4 as follows:

15.8.4.1 Unless the element remains in compliance with this Code, the addition shall not increase the stresses in any structural element of the existing building or structure by more than 5 percent cumulative since original construction, except as permitted by 15.8.4.2.

15.8.4.2 An addition shall not increase the stress in any structural element of the existing building or structure by more than 5 percent, unless the increased load on the element remains in compliance with Chapter 35 for new structures.

An addition shall not increase the stress in any structural element of the existing building or structure by more than 5 percent cumulative since original construction, unless the element remains in compliance with this Code.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-225

RECOMMENDATION: Insert a new Section 15.9 as follows:

15.9.1 General. Unsafe conditions or elements, as described in 1.7.5.3.1.1, shall be corrected in accordance with Section 15.9.

15.9.2 Nonstructural Conditions.

15.9.2.2 The nonstructural condition or element shall be brought into compliance with the applicable structural requirements for new.

15.9.2.2.2 For those conditions and elements for which this chapter does not contain specific requirements, the unsafe condition or element shall be restored to its original condition.

15.9.2.2.3 If the nonstructural condition or element is determined to have been unsafe at the time of construction, the unsafe condition or element shall be brought into compliance with this chapter.

15.9.2.2.4 If those conditions and elements for which this chapter does not contain specific requirements, the unsafe condition or element shall be restored to its original condition.

15.9.2.2.5 If the nonstructural condition or element is determined to have been unsafe at the time of construction, the unsafe condition or element shall be brought into compliance with the applicable structural requirements of this Code.

15.9.3 Structural Conditions.

15.9.3.1 If the structural condition or element was not structurally unsafe at the time of construction, the unsafe condition or element shall be restored to its original condition.

15.9.3.2 Based upon the definition of structurally unsafe, the "applicable structural requirements of this Code" are those related to dead and live loads.

15.9.3.3 Where the structure of a building is damaged, an evaluation shall be conducted to determine whether such damage is substantial, as defined in 15.9.3.1.1, and whether the building was structurally unsafe prior to the damage.

15.9.3.4 For those conditions and elements for which this chapter does not contain specific requirements, the unsafe condition or element shall be restored to its original condition.

15.9.3.5 Where this Code does not include comprehensive information on materials stresses that may be found in existing structures (e.g., cast iron structures and structural clay tile), archaic materials guides and references may be used to evaluate these materials with the approval of the AHJ.

15.9.3.6 If the structural condition or element was not structurally unsafe at the time of construction, the unsafe condition or element shall be brought into compliance with the applicable structural requirements of this Code.

15.9.3.7 Based upon the definition of structurally unsafe, the "applicable structural requirements of this Code" are those related to dead and live loads.

15.9.3.8 This provision is not intended to trigger other upgrades, such as for wind or seismic.

15.9.3.9 The structure of a building is damaged, an evaluation shall be conducted to determine whether such damage is substantial, as defined in 15.9.3.1.1, and whether the building was structurally unsafe prior to the damage.

15.9.3.10 Substantial Damage.
A 15.9.3.3.1 This criterion for substantial damage is not intended to supersede flood-related provisions found in Chapter 39.

15.9.3.3.1.1 A building or structure shall be determined to have substantial damage where either of the following conditions is present:

1. The total strength of a structural element, or group of elements, supporting more than 30 percent of the structure’s vertical loads has been reduced by more than 25 percent from the pre-damaged condition, and the remaining capacity with respect to all dead and live loads is less than 75 percent of that required by this Code.

2. The combined lateral strength of resisting structural elements in any story has been reduced by more than 20 percent from the pre-damaged condition.

15.9.3.3.1.2 Where complying with the requirements for Chapter 39, the definition for substantial damage provided in 39.2.22 shall apply to the Chapter 39 requirements.

15.9.3.3.2 Where structural damage is less than substantial and the damaged elements were not structurally unsafe prior to damage, the damaged elements shall be permitted to be restored to the condition prior to damage.

15.9.3.3.3 Where structural damage is less than substantial, and the damaged elements were structurally unsafe prior to damage, the damaged elements shall be brought into compliance with this Code, except as permitted in 15.9.3.3.3.1.

15.9.3.3.3.1 For resistance to wind and seismic loads, the damaged elements shall be restored to at least the condition prior to damage.

15.9.3.3.3.2 For those conditions and elements which specific requirements, the unsafe condition or element shall be brought into compliance with this chapter.

15.9.3.3.2.1 For those conditions and elements for which this chapter contains specific requirements, the unsafe condition or element shall be corrected in accordance with 15.9.2.2.1 and 15.9.2.2.2.

15.9.3.3.2.2 For those conditions and elements for which this chapter does not contain specific requirements, the unsafe condition or element shall be corrected as directed by the AHJ.

A 15.9.3.3.3 This criterion for substantial damage is not intended to supersede flood-related provisions found in Chapter 39.

15.9.3.3.1 A building or structure shall be determined to have substantial damage where either of the following conditions is present:

1. The total strength of a structural element, or group of elements, supporting more than 30 percent of the structure’s vertical loads has been reduced by more than 25 percent from the pre-damaged condition, and the remaining capacity with respect to all dead and live loads is less than 75 percent of that required by this Code.

2. The combined lateral strength of resisting structural elements in any story has been reduced by more than 20 percent from the pre-damaged condition.

15.9.3.3.2 Where complying with the requirements for Chapter 39, the definition for substantial damage provided in 39.2.22 shall apply to the Chapter 39 requirements.

15.9.3.3.3 Where structural damage is less than substantial and the damaged elements were not structurally unsafe prior to damage, the damaged elements shall be permitted to be restored to the condition prior to damage.

15.9.3.3.4 Where the structural damage is substantial, the entire structure shall be brought into compliance with this Code, except as permitted in 15.9.3.3.4.1 or 15.9.3.3.4.2.

15.9.3.3.4.1 Seismic loads shall be permitted to be 75 percent of those otherwise required in this Code.

15.9.3.3.4.2 Use of the alternative seismic requirements in 15.1.2.3.1 shall be permitted.

Renumber remainder of Chapter.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this language to provide for a mechanism to upgrade buildings that were designed improperly, built improperly, designed to codes that have outdated requirements, allowed to degrade, or were damaged to such an extent that they are no longer considered safe without requiring full compliance with this Code, including the designated exceptions. Prior to the existence of such a section, the code did not provide clear guidance as to how an unsafe building should be corrected.

The changes included in this package allow for the correction of unsafe conditions as follows:

• Conditions or elements found to be unsafe by the AHJ or other evaluations shall be corrected to the condition prior to the condition or element becoming unsafe.

• If the preexisting condition or elements would still be unsafe, the condition or element shall be corrected as would be allowed in this chapter for conditions or elements that specific requirements are detailed.

• If this chapter does not contain specific requirements, then the condition or element shall comply with the requirements of the AHJ. Annex note with directions to the AHJ that it may be appropriate to allow conditions that to not meet the requirements for new.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2

ALLEN, WATTS

5000-426 Log #453b BLD-STR

FINAL ACTION: Accept

(15.9 (New) )

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENT ON PROPOSAL NO: 5000-599

RECOMMENDATION: Insert a new Section 15.9 as follows:

15.9 Damaged or Unsafe Buildings.

15.9.1 General. Unsafe conditions or elements, as described in 17.5.3.1.1, shall be corrected in accordance with Section 15.9.

15.9.2 Nonstructural Conditions.

15.9.2.1 If the nonstructural condition or element was not unsafe at time of construction, the unsafe condition or element shall be restored to its original condition.

15.9.2.2 If the nonstructural condition or element is determined to have been unsafe at the time of construction, the unsafe condition or element shall be corrected in accordance with 15.9.2.2.1 and 15.9.2.2.2.

15.9.2.2.1 For those conditions and elements for which this chapter contains specific requirements, the unsafe condition or element shall be brought into compliance with this chapter.

15.9.2.2.2 For those conditions and elements for which this chapter does not contain specific requirements, the unsafe condition or element shall be corrected as directed by the AHJ.

A 15.9.3 Where this Code does not include comprehensive information on materials stresses that may be found in existing structures (e.g., cast iron, structures and structural clay tile), archaic materials guides and references may be used to evaluate these materials with the approval of the AHJ.

15.9.3.1 If the structural condition or element was not structurally unsafe at time of construction, the unsafe condition or element shall be permitted to be restored to its original condition.

15.9.3.2* If the structural condition or element is determined to have been structurally unsafe at the time of construction, the structurally unsafe condition or element shall be brought into compliance with the applicable structural requirements of this Code.

A 15.9.3.2 Based upon the definition of structurally unsafe, the “applicable structural requirements of this Code” are those related to dead and live loads, only. This provision is not intended to trigger other upgrades, such as for wind, or seismic.

15.9.3.3 Where the structure of a building is damaged, an evaluation shall be conducted to determine whether such damage is substantial, as defined in 15.9.3.3.1, and whether the building was structurally unsafe prior to the damage.

15.9.3.3.1* Substantial Damage.

A 15.9.3.3.1 This criterion for substantial damage is not intended to supersede flood-related provisions found in Chapter 39.

15.9.3.3.1.1 A building or structure shall be determined to have substantial damage where either of the following conditions is present:

1. The total strength of a structural element, or group of elements, supporting more than 30 percent of the structure’s vertical loads has been reduced by more than 25 percent from the pre-damaged condition, and the remaining capacity with respect to all dead and live loads is less than 75 percent of that required by this Code.

2. The combined lateral strength of resisting structural elements in any story has been reduced by more than 20 percent from the pre-damaged condition.

15.9.3.3.1.2 Where complying with the requirements for Chapter 39, the definition for substantial damage provided in 39.2.22 shall apply to the Chapter 39 requirements.

15.9.3.3.2 Where structural damage is less than substantial and the damaged elements were not structurally unsafe prior to damage, the damaged elements shall be permitted to be restored to the condition prior to damage.

15.9.3.3.3 Where structural damage is less than substantial, and the damaged elements were structurally unsafe prior to damage, the damaged elements shall be brought into compliance with this Code, except as permitted in 15.9.3.3.3.1.

15.9.3.3.3.1 For resistance to wind and seismic loads, the damaged elements shall be restored to at least the condition prior to damage.

15.9.3.3.3.2 For those conditions and elements which specific requirements, the unsafe condition or element shall be brought into compliance with this Code, except as permitted in 15.9.3.3.3.1.

15.9.3.3.3.3 For resistance to wind and seismic loads, the damaged elements shall be permitted to be restored to the condition prior to damage.

15.9.3.3.3.4 Where the structural damage is substantial, the entire structure shall be brought into compliance with this Code, except as permitted in 15.9.3.3.4.1 or 15.9.3.3.4.2.

15.9.3.3.4.1 Seismic loads shall be permitted to be 75 percent of those otherwise required in this Code.

15.9.3.3.4.2 Use of the alternative seismic requirements in 15.1.2.3.1 shall be permitted.

Renumber remainder of Chapter.

SUBSTANTIATION: The Task Group on Structural Rehabilitation developed this language to provide for a mechanism to upgrade buildings that were designed improperly, built improperly, designed to codes that have outdated requirements, allowed to degrade, or were damaged to such an extent that they are no longer considered safe without requiring full compliance with this Code, including the designated exceptions. Prior to the existence of such a section, the code did not provide clear guidance as to how an unsafe building should be corrected.

The changes included in this package allow for the correction of unsafe conditions as follows:

• Conditions or elements found to be unsafe by the AHJ or other evaluations shall be corrected to the condition prior to the condition or element becoming unsafe.

• If the preexisting condition or elements would still be unsafe, the condition or element shall be corrected as would be allowed in this chapter for conditions or elements that specific requirements are detailed.

• If this chapter does not contain specific requirements, then the condition or element shall comply with the requirements of the AHJ. Annex note with directions to the AHJ that it may be appropriate to allow conditions that to not meet the requirements for new.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5

DIGIOVANNI, GILLENGERTEN, NOVAK, ROBBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment on 5000-4.
SUBMITTER: David S. Collins, The Preview Group, Inc.

RECOMMENDATION: 1. Renumber Section 15.9 as 15.10 and modify 15.10.1.1 as follows:
15.10.1.1 General.
15.10.1.2 Historic buildings and structures shall comply with the provisions of Section 15.10, or with the provisions of Section 15.3, Section 15.4, Section 15.5, Section 15.6, and Section 15.7, relating to their repair, renovation, modification, reconstruction, movement, and change of occupancy.
15.10.1.2.1 Damaged or unsafe historic buildings and structures shall also comply with Section 15.9, one of the following:
(A) Section 15.9.
(B) Section 15.3, Section 15.4, Section 15.5, Section 15.6, Section 15.7, respectively, as they relate to repair, renovation, modification, reconstruction, movement, and change of occupancy classification.
(C) NFPA 914, Code for the Fire Protection of Historic Structures, and Sections 15.9.1.3, 15.9.1.4, and 15.9.1.5.

2. Insert a new 15.10.4.13 as follows:
15.10.4.13 Fire Protection Systems.
15.10.4.13.1 NFPA 914, Code for the Fire Protection of Historic Structures, shall be permitted to be used as an alternative to fire protection systems required by Section 15.3, Section 15.4, Section 15.5, Section 15.6, or Section 15.9.
15.10.4.13.2 NFPA 914, Code for the Fire Protection of Historic Structures, shall be permitted to be used as an alternative to fire protection systems required by Section 15.7.

SUBSTANTIATION: The Task Group on Structural Rehabilitation is concerned that, as modified in the ROP, this section now erroneously provides an exception to compliance with Chapter 15 requirements. NFPA 914 only addresses fire protection issues, while Section 15.10 and Sections 15.3 through 15.7 each address numerous issues in addition to fire protection. The allowance for NFPA 914 has been moved to its own section, 15.10.4.13 and given as an option for compliance with fire protections provisions. Additionally, correction of damage or unsafe conditions in historic structures should be full compliance with Section 15.9 (Damaged or Unsafe Buildings).

COMMITTEE MEETING ACTION: Accept in Principle
Accept the portion of the submitter’s recommendation shown as item 1 on 15.10.1.1 through 15.10.1.2 as follows.
Renumber Section 15.9 as 15.10 and modify 15.10.1.1 as follows:
15.10.1.1 General.
15.10.1.1.1 Historic buildings and structures shall comply with the provisions of Section 15.10, or with the provisions of Section 15.3, Section 15.4, Section 15.5, Section 15.6, and Section 15.7, relating to their repair, renovation, modification, reconstruction, movement, and change of occupancy.
15.10.1.1.2 Damaged or unsafe historic buildings and structures shall also comply with Section 15.9, one of the following:
(A) Section 15.9.
(B) Section 15.3, Section 15.4, Section 15.5, Section 15.6, Section 15.7, respectively, as they relate to repair, renovation, modification, reconstruction, movement, and change of occupancy classification.
(C) NFPA 914, Code for the Fire Protection of Historic Structures, and Sections 15.9.1.3, 15.9.1.4, and 15.9.1.5.

2. Revise the text of the submitter’s item 2 which inserts a new 15.10.4.13 as follows:
15.10.4.13 Fire Protection Systems Safety from Fire.
15.10.4.13.1 NFPA 914, Code for the Fire Protection of Historic Structures shall be permitted to be used as an alternative to fire safety requirements of protection systems required by Section 15.3, Section 15.4, Section 15.5, Section 15.6, or Section 15.9.
15.10.4.13.2 NFPA 914, Code for the Fire Protection of Historic Structures shall be permitted to be used as an alternative to fire safety requirements of protection systems required by Section 15.7.

COMMITTEE STATEMENT: The term “fire protection systems” is too limiting. NFPA 914 addresses safety from fire and some of that is accomplished by features that are not fire protection systems.

NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROBBERS, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

SUBmitter: Technical Correlating Committee on Building Code
COMMent on Proposed No. 5000-620
RECOMMANDATION: Coordinate and update new text for Chapter 32 (32.7) to read as indicated in the committee statement.
SUBSTANTIATION: See the above recommendation.
COMmittee MEETING ACTion: Accept
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROBBERS, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.
SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMITTEE MEETING ACTION: Accept in Part

Revised as follows:

16.1.1.2 Repairs, renovations, modifications, additions, and reconstruction of an [Insert Occupancy Classification] occupancy and changes of use, including change of occupancy classification to an assembly occupancy, or correction of damaged or unsafe portion of the building containing the [Insert Occupancy Classification] occupancy, shall comply with one of the following:

(1) Provisions of this chapter
(2) Provisions of Chapter 15

COMMITTEE STATEMENT: The action on 16.1.1.2, as requested by the submitter, is the only portion of the comment under the purview of the BLD-AXM committee.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMITTEE MEETING ACTION: Accept in Part

Revised as follows:

17.1.1.2 Repairs, renovations, modifications, additions, and reconstruction of an [Insert Occupancy Classification] occupancy and changes of use, including change of occupancy classification to an educational occupancy, or correction of damaged or unsafe portion of the building containing the educational occupancy, shall comply with one of the following:

(1) Provisions of this chapter
(2) Provisions of Chapter 15

COMMITTEE STATEMENT: The action does what the submitter requested.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7 BROOKS, FISHBECk, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMITTEE MEETING ACTION: Accept in Part

Revised as follows:

21.1.1.2 Repairs, renovations, modifications, additions, and reconstruction of an ambulatory health care occupancy, or correction of damaged or unsafe portion of the building containing the ambulatory health care occupancy, shall comply with one of the following:

(1) Provisions of this chapter
(2) Provisions of Chapter 15

COMMITTEE STATEMENT: The action what the submitter requested.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7 BROOKS, FISHBECk, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMITTEE MEETING ACTION: Accept in Part

Revised as follows:

21.1.1.2 Repairs, renovations, modifications, additions, and reconstruction of a detention and correctional occupancy, or changes of use including change of occupancy classification to a detention and correctional occupancy, or correction of damaged or unsafe portion of the building containing the detention and correctional occupancy, shall comply with one of the following:

(1) Provisions of this chapter
(2) Provisions of Chapter 15

COMMITTEE STATEMENT: The Task Group on Structural Rehabilitation developed this comment to reflect the addition of damage and unsafe provisions in Chapter 15.

NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSGALLI, WARBURTON

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT IN PRINCIPLE to “ACCEPT IN PART – Retain the remainder of the committee action text. Only the label “Accept in Part” is being changed to reflect that the committee does not have jurisdiction over all the code sections addressed by the comment.”

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMITTEE MEETING ACTION: Accept in Part

Revised as follows:

21.1.1.2 Repairs, renovations, modifications, additions, and reconstruction of a detention and correctional occupancy, or changes of use including change of occupancy classification to a detention and correctional occupancy, or correction of damaged or unsafe portion of the building containing the detention and correctional occupancy, shall comply with one of the following:

(1) Provisions of this chapter
(2) Provisions of Chapter 15

COMMITTEE STATEMENT: The Task Group on Structural Rehabilitation developed this comment to reflect the addition of damage and unsafe provisions in Chapter 15.

NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSGALLI, WARBURTON
COMMITTEE MEETING ACTION: Accept in Principle

The Task Group on Structural Rehabilitation developed this comment to reflect the addition of damage and unsafe provisions in Chapter 26.

COMMITTEE STATEMENT: The committee action accomplishes that which the submitter requests for Chapter 26.

TCC ACTION: The Technical Correlating Committee (TCC) directs that this action be revised from "ACCEPT IN PRINCIPLE" to "ACCEPT IN PART – Retain the remainder of the committee action text. Only the label "Accept in Part" is being changed to reflect that the committee does not have jurisdiction over all the Code sections addressed by the comment."

SUBMITTER: David S. Collins, The Preview Group, Inc.

COMMENTS ON PROPOSAL NO: 5000-599


Repairs, renovations, modifications, additions, and reconstruction of a residential board and care occupancy, and changes of use including change of occupancy classification to a residential board and care occupancy, or correction of damaged or unsafe portion of the building containing the residential board and care occupancy, shall comply with one of the following:

(1) Provisions of this chapter
(2) Provisions of Chapter 15

SUBSTANTIATION: The committee action accomplishes that which the submitter requests for Chapter 26.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOME

COMMITTEE MEETING ACTION: Accept in Part

Accept proposed changes to Chapters 27 and 28 only.

COMMITTEE STATEMENT: Chapters other than 27 and 28 are not within the scope of BLD-MER.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOME

COMMITTEE MEETING ACTION: Accept in Part

Accept proposed changes to Chapters 29 and 30 only.

COMMITTEE STATEMENT: Chapters other than 29 and 30 are not within the scope of BLD-IND.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAI, WREN
COMMITTEE STATEMENT: The BLD-MEA committee has revised its action so that escape devices will not be permitted to serve as required means of egress.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, Pritchett, WERTHEIMER

5000-441 Log #128 BLD-AXM FINAL ACTION: Accept in Principle (16.2.2.3.2.3 (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-626
RECOMMENDATION: Give consideration, so as to make any needed changes, to its action given:
(1) BLD-AXM was the only technical committee to permit use of the escape devices or systems
(2) DiPilla’s, Donoghue’s, Shulman’s and Versteeg’s Explanation of Negative, and Paul’s Comment on Affirmative on Proposal 5000-544 from BLD-MEA members.
(3) The TCC was recently made aware of a UL decision in December 2003 to withdraw a listing standard that addressed the mechanical performance of some of the components of these systems. However, the TCC was informed of the creation of an ASTM committee that is going to address such products.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The BLD-MEA committee has revised its action so that escape devices will not be permitted to serve as required means of egress.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, Pritchett, WERTHEIMER

5000-442 Log #488 BLD-AXM FINAL ACTION: Reject (16.2.5.4.1)

SUBMITTER: Stephen V. Skalko, Portland Cement Association

COMMENT ON PROPOSAL NO: 5000-633
RECOMMENDATION: Revise as follows:
16.2.5.4.1 Festival seating, as defined in 3.3.474.1, shall be prohibited within a building, unless otherwise permitted by one of the following:
(1) Festival seating shall be permitted in clubs, dance halls, discotheques, and similar assembly occupancies with live entertainment having an occupant load of more than 300 and where an approved life safety evaluation has been performed.
(2) Except as required in No. (1), festival seating shall be permitted in assembly occupancies having occupant loads of more than 1000.

SUBSTANTIATION: Proposal 5000-633 makes no distinction about the types of assembly occupancies that are required to have the life safety evaluation except to require it for any assembly occupancy where festival seating is used. Then, all other assembly occupancies having occupant loads exceed 1000 and where an approved life safety evaluation was performed. The TCC was recently made aware of a UL decision in December 2003 to withdraw a listing standard that addressed the mechanical performance of some of the components of these systems. However, the TCC was informed of the creation of an ASTM committee that is going to address such products.

SUBSTANTIATION: Proposal 5000-633 makes no distinction about the types of assembly occupancies that are required to have the life safety evaluation except to require it for any assembly occupancy where festival seating is used. Then, all other assembly occupancies having occupant loads exceed 1000 and where an approved life safety evaluation was performed. The TCC was recently made aware of a UL decision in December 2003 to withdraw a listing standard that addressed the mechanical performance of some of the components of these systems. However, the TCC was informed of the creation of an ASTM committee that is going to address such products.
original proposal. The added categories of assembly occupancies focus on uses consistent with the given reasons for the problem being concert halls, dance halls and clubs with live entertainment. The proposal also establishes the occupant load threshold at 300 people to be consistent with threshold for present requirements of sprinkler protection and fire alarm systems.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The 250 person threshold is needed to assure assembly occupancy life safety where festival seating is used.

NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 20 Negative: 3

BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

EXPLANATION OF NEGATIVE: MILLER: The comment should be accepted for the reason stated in the substantiation in the argument. Festival seating for the high risk assembly types has been targeted. The historically less high-risk assembly types being reduced to 250 occupants from 1000 occupants requiring a Life Safety evaluation does not seem warranted.

SKALKO: The committee reason for rejection states that the threshold for requiring the life safety evaluation needs to be 250 people to assure life safety is provided for assembly occupancies with festival seating. If that is the reason, then the proposal as submitted could be modified to change the proposed threshold from 300 to 250 persons while still approving the language change that clarified the types of assembly occupancies (i.e. clubs, dance halls, discotheques and assembly occupancies with live entertainment) where the festival seating can present a life safety hazard to the occupants. These assembly occupancies are similar to the two examples used in justifying the original change to this section (The Station, Warwick, RI and E2 Club, Chicago, IL).

TUBBS: This change would realign the festival seating provisions with the language change that clarified the types of assembly occupancies (i.e clubs, dance halls, discotheques and similar occupancies with live entertainment).

5000-442a Log #CC503 BLD-AXM FINAL ACTION: Accept

(16.2.5.6)

SUBMITTER: Technical Committee on Assembly Occupancies and Membrane Structure

COMMENT ON PROPOSAL NO: 5000-634

RECOMMENDATION: Revise 16.2.5.6.6(8)(a) from that shown in ROP Proposal 5000-634 as follows:

(a) The riser height is designed non-uniform.

SUBSTANTIATION: Correction of error. See corresponding changes made to NFPA 101 in Comments 101-215 and 101-231.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 24

BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-443 Log #209 BLD-AXM FINAL ACTION: Reject

(16.3.4.1 Exception No. 2)

SUBMITTER: Daniel J. Gauvin, Tyco/Simplex Grinnell

COMMENT ON PROPOSAL NO: 5000-638

RECOMMENDATION: Delete 16.3.4.1 Exception No. 2 as originally proposed, i.e. Exceptions No. 1 and No. 3.

16.3.4.1 General. Assembly occupancies with occupant loads greater than 300 and all theaters with more than one audience-viewing room shall be provided with an approved fire alarm system in accordance with Section 55.2 and 16.3.4.2 through 16.3.4.3.

Exception No. 1. Assembly occupancies that are a part of a mixed occupancy shall be permitted to be served by a common fire alarm system, provided that the individual requirements of each occupancy are met.

Exception No. 2. Voice communication or public address systems complying with Section 55.2.4.3.1 shall be permitted to be served by a common fire alarm system, provided in accordance with applicable NFPA standards.

SUBSTANTIATION: 1. The Codes and the Code Making Process currently addresses the assignment of scope as follows:

In accordance with the Guide for Committee Officers of Technical Committees and Technical Correlating Committees of National Fire Protection Association, the Assembly Occupancy Committee should whenever possible reference the requirements by an installation standard. NFPA 101 Section 4.5.6 states, Any fire protection system, building service equipment, feature of protection, or safeguard provided for life safety shall be designed, installed, and approved in accordance with applicable NFPA standards.

When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope for the installation and performance of the fire alarm system lies with the NFPA 72 Fire Alarm Code.

NFPA 72 is the installation standard that identifies how the fire alarm system and associated fire alarm system features required by the Building and/or Life Safety Codes must perform, be installed, and tested.

If NFPA 101 or 5000 requires occupants to be notified of a fire condition then the requirements for the Occupant Notification of the fire condition must comply with NFPA 72.

If an NFPA 101 and/or 5000 Technical Committee does not agree with the requirements of NFPA 72 for occupant notification then the NFPA 101 and/or 5000 Technical Committee should submit a proposal to NFPA 72.

2. Od Jurisdictions may be changing whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception to the minimum alarm requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.

3. NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for:

- Sensitivity power, - Monitoring integrity (circuit supervision), - Survivability - Audible and visible characteristics, - Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 alarm notification systems. For example:

- In a fire emergency it is not uncommon to experience a loss of primary power. Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 security requirements.

- In today’s environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror.

4. There are no installation standards or performance requirements applicable to Public Address systems. AHJ’s do not have any standards to ensure and enforce the reliability and minimum performance requirements for public address systems are met. Some Public Address systems provide speaker volume controls accessible to occupants that may be used to completely turn off the means of notification in their areas. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm occupant notification.

5. NFPA 72 and NFPA 101 also address the desire to eliminate the cost of requiring duplicative similar systems.

In accordance with NFPA 72 section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Some manufacturers offer NFPA 72 Emergency Voice/Alarm Communication systems that are also listed for PHU applications eliminating the need for duplicate systems. Where sophisticated public address audio systems are required that technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.

6. The option also currently exists for Equivalency and Performance Based Approaches in accordance with NFPA 101 Section 1-4 and NFPA 101 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72 National Fire Alarm Code for any occupancy. In some venues, PA Systems may be a preferred and valid approach. However, because PA systems are not required to meet the minimum performance criteria of any standards, THE USE OF PUBLIC ADDRESS SYSTEMS NOT LISTED FOR THE PURPOSE OF FIRE ALARM OCCUPANT NOTIFICATION SHOULD ONLY BE APPLIED THROUGH THE PERFORMANCE-BASED PROVISIONS IN THE CODE.

I also share the concerns associated with the use of public address systems as provided in the explanation of negative vote from Mr. Bartlett.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Voice communication or public address systems complying with Section 55.2.4.3.1 shall be permitted to be served by a common fire alarm system, provided in accordance with applicable NFPA standards.

5000-198
NFPA 5000 Section 4.4.6 states, any fire protection system, building service
issues between committees developing occupancy standards and committees
of scope as follows:

The Codes and the Code Making Process currently addresses the assignment
installed, and tested.

- NFPA 72 is the installation standard that identifies how the fire alarm
system required by the Building and/or Life Safety Code must perform, be
installed, and tested.

The Codes and the Code Making Process currently addresses the assignment
of scope as follows:

In accordance with Annex A-9, guidelines on potential jurisdictional (scope)
issues between committees developing occupancy standards and committees
developing installation standards, an Occupancy Committee should wherever possible reference the requirements by an installation standard.

NFPA 5000 Section 4.4.6 states, Any fire protection system, building service
equipment, feature of protection, or safeguard provided for fire and life safety
shall be designed, installed, and approved, in accordance with applicable NFPA
standards.

NFPA 72 has specific minimum performance requirements for Occupant
Notification such as performance levels for:
- Secondary power,
- Monitoring integrity (circuit supervision),
- Survivability,
- Audible and visible characteristics,
- Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant
notification systems. For example:
- If a fire emergency it is not uncommon for the cause of the fire condition to
also result in a loss of power.

Often the fire alarm system is the only reliable emergency notification system
due to NFPA 72 secondary power requirements.
- In today’s environment the monitoring and integrity requirements of NFPA
72 are necessary to ensure the system wiring is not altered or tampered with
due to building maintenance, acts of vandalism, arson, or terror.

There are no installation standards or performance requirements applicable to
Public Address systems. Some Public Address systems provide speaker volume
controls accessible to occupants that may be used to completely turn off the
means of notification in their areas. We also share the concerns associated
with the use of public address systems as provided in the explanation of
negative vote from Mr. Bartlett. The allowed use of public address systems in the
NFPA Building and Life Safety Codes without including the installation and
performance requirements for an NFPA 72 Emergency Voice/Alarm
Communications system does not provide the minimum requirements for fire
alarm occupant notification.

NFPA 72 and NFPA 5000 also address the desire to eliminate the cost of
requiring duplicative similar systems.
- In accordance with NFPA 72 Section 6.8.4, Fire Alarm systems are allowed
to be used as Combination Systems that share components, circuitry, and
installation wiring with non-fire alarm systems. Several manufacturers offer
NFPA 72 Emergency Voice/Alarm Communication systems that are also listed
for public address use. Eliminating the need for duplicative systems. Where
sophisticated public address audio systems are required, the technology exists
for system manufacturers to design and manufacture systems that also comply
with the requirements of NFPA 72 as combination systems.
- The option also exist for Equivalency and Performance Based Options in
accordance with NFPA 5000 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72, National Fire Alarm Code for any occupancy. The prescriptive requirements of NFPA 72 occupant notification systems must be included as the basis for determining performance based options when desired.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: Voice communication systems for day-to-day use in assembly occupancies have performed in a fashion superior to those required by NFPA 72. The big venues need big speakers and such speakers are not listed for fire alarm systems. Vote shall be taken to reject the proposal.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: NFPA 72 is the installation standard that identifies how the fire alarm system performs, i.e., NFPA 101 and/or NFPA 5000 Technical Committee should submit a proposal to NFPA 72.

2. Other Building Codes and Jurisdictions may begin to question whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception the minimum requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.

NFPA 72 has specific minimum performance requirements for Occupant
Notification such as performance levels for:
- Secondary power,
- Monitoring integrity (circuit supervision),
- Survivability,
- Audible and visible characteristics,
- Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant
notification systems. For example:
- In a fire emergency it is not uncommon to experience a loss of primary power. Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements.
In today's environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror. NFPA 72 and NFPA 101 also address the desire to eliminate the cost of requiring duplicative similar systems.

In accordance with NFPA 72 Section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication systems that are also listed for paging applications - eliminating the need for duplicate systems. Where sophisticated public address audio systems are required the technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.

6. The option also currently exists for Equivalency and Performance Based Options in accordance with NFPA 72 Section 6.8.4 and NFPA 101 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72 National Fire Alarm Code for any occupancy. In some venues, PA systems may be required to meet the minimum performance criteria of any standards. THE USE OF PUBLIC ADDRESS SYSTEMS NOT LISTED FOR THE PURPOSE OF FIRE ALARM OCCUPANT NOTIFICATION SHOULD ONLY BE APPLIED USING THE PERFORMANCE BASED PROVISIONS IN THE CODE.

7. I also share the concerns associated with the use of public address systems as provided in the explanation of negative vote from Mr. Bartlett.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Voice communication systems for day-to-day use in assembly occupancies have performed in a fashion superior to those required by NFPA 72. The big venues need big speakers and such speakers are not listed for fire alarm system use. Big volume also is needed. Some of these sophisticated, non-72 systems, have synchronization features so signals are sent to different speakers at different times so the message doesn't get garbled in a large space with multiple speakers. Such systems are maintained and tested because the successful operation of the venue depends on the speakers being in working order. Emergency power is already required.

The submitter's substantiation refers to manufacturers who have listed combination systems to permit paging. Such systems do not meet the unique needs of assembly occupancies. NFPA 72 systems are problematic. It is not justified to install two systems - one that can be heard and understood, and one that satisfies the requirements of NFPA 72 but performs inadequately in assembly venues.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, Pritchett, WERTHEIMER

5000-446 Log #249 BLD-AXM
FINAL ACTION: Reject (16.3.4.3.3)

SUBMITTER: Technical Committee on Fundamentals of Fire Alarm Systems

RECOMMENDATION: Revise 16.3.4.3.3 as originally proposed, i.e., 16.3.4.3.3

SUBSTANTIATION: When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope of the installation and performance of the fire alarm system lies with the NFPA 72, National Fire Alarm Code. The Building and Life Safety Codes identify when and where fire alarm systems and features are required. NFPA 72 is the installation standard that identifies how the fire alarm system required by the Building and/or Life Safety Code must perform, be installed, and tested. The Codes and the Code Making Process currently addresses the assignment of scope as follows:

In accordance with Annex A-9 guidelines on potential jurisdictional (scope) issues between committees developing occupancy standards and committees developing installation standards, an Occupancy Committee should wherever possible reference the requirements by an installation standard.

NFPA 72 has specific minimum performance requirements for Occupant Notification system as performance levels for:
- Secondary power,
- Monitoring integrity (circuit supervision),
- Survivability,
- Audible and visible characteristics,
- Testing, maintenance, record-keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant notification systems. For example:
- In a fire emergency it is not uncommon for the cause of the fire condition to also result in a loss of power.
- Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements.
- In today's environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror.

There are no installation standards or performance requirements applicable to Public Address systems. Some Public Address systems provide speaker volume controls accessible to occupants that may be used to completely turn off the means of notification in their areas. We also share the concerns associated with the use of public address systems as provided in the explanation of negative vote from Mr. Bartlett. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communication systems does not provide the minimum requirements for fire alarm occupant notification.

NFPA 72 and NFPA 5000 also address the desire to eliminate the cost of requiring duplicative similar systems:
- In accordance with NFPA 72 Section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication systems that are also listed for paging applications - eliminating the need for duplicative systems. Where sophisticated public address audio systems are required, the technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.
- The option also exist for Equivalency and Performance Based Options in accordance with NFPA 5000 Section 1.3 and NFPA 5000 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72, National Fire Alarm Code for any occupancy. In some venues, PA systems may be a preferred and valid approach. However, because PA systems are not required to meet the minimum performance criteria of any standards, THE USE OF PUBLIC ADDRESS SYSTEMS NOT LISTED FOR THE PURPOSE OF FIRE ALARM OCCUPANT NOTIFICATION SHOULD ONLY BE APPLIED USING THE PERFORMANCE BASED PROVISIONS IN THE CODE.

NFPA 72 and NFPA 5000 also address the desire to eliminate the cost of requiring duplicative similar systems:
- In accordance with NFPA 72 Section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication systems that are also listed for paging applications - eliminating the need for duplicative systems. Where sophisticated public address audio systems are required, the technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.
- The option also exist for Equivalency and Performance Based Options in accordance with NFPA 5000 Section 1.3 and NFPA 5000 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72, National Fire Alarm Code for any occupancy. The prescriptive requirements of NFPA 72 occupant notification systems must be included as the basis for determining performance based options when desired.

The position of the NFPA 72 Technical Committee on Fundamentals of Fire Alarm Systems that systems used for the purpose of occupant notification of fire conditions falls within the scope of NFPA 72. This appears to be a correlation issue that needs to be addressed to determine which committee’s purview notification of occupants of a fire alarm condition resides.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Voice communication systems for day-to-day use in assembly occupancies have performed in a fashion superior to those required by NFPA 72. The big venues need big speakers and such speakers are not listed for fire alarm system use. Big volume also is needed. Some of these sophisticated, non-72 systems, have synchronization features so signals are sent to different speakers at different times so the message doesn’t get garbled in a large space with multiple speakers. Such systems are maintained and tested because the successful operation of the venue depends on the speakers being in working order. Emergency power is already required.

The submitter’s substantiation refers to manufacturers who have listed combination systems to permit paging. Such systems do not meet the unique needs of assembly occupancies. NFPA 72 systems are problematic. It is not justified to install two systems - one that can be heard and understood, and one that satisfies the requirements of NFPA 72 but performs inadequately in assembly venues.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER
REPORT ON COMMENTS — Copyright, NFPA

5000-447 Log #578 BLD-AXM FINAL ACTION: Reject (16.3.5.1)

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-642

RECOMMENDATION: Reconsider revised:

(3) Partial Sprinkler Systems – Buildings shall be permitted to be partially sprinklered. Sprinkler protection may be omitted in the following locations in stadia and arenas.

SUBSTANTIATION: The committee is modifying a fundamental requirement of NFPA 13. It is only fair that the partial sprinkler system be identified correctly with respect to the installation standard so that a false sense of property security is not fostered and so that property owners can realize that omissions for the purpose of life safety may affect their property investment.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The submitters text does not make an improvement. Rather, the introduction of the term partial sprinkler systems would complicate the issue.

NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 24

BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-448 Log #579 BLD-AXM FINAL ACTION: Reject (16.3.5.1)

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-642

RECOMMENDATION: Reconsider:

SUBSTANTIATION: Many new and existing places of worship are being constructed such that they are indistinguishable from auditoriums with legitimate stages. Many places of worship also host theatrical performances within their facilities exactly because they are auditoriums with stages. The fire loss history of places churches is significant. Although the life loss is negligible, (although firefighters have been killed in churches), the property loss is total. Although the omission of sprinklers in places of worship is not for life safety, it assures the total destruction of the facility.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See the Committee Statement for the rejection of ROP Proposal 5000-642. The submitters substantiation speaks to a different issue than that addressed by ROP Proposal 5000-642.

NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 24

BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-449 Log #489 BLD-AXM FINAL ACTION: Reject (16.3.5.1.1)

TCC Action: The Technical Correlating Committee (TCC) notes that this comment did not receive the necessary 2/3 agreement to confirm the committee action of accept in part, thus the final action is REJECT.

NOTE: Since the ballot on this Comment did not confirm the Committee Action, the comment is being rejected.

SUBMITTER: Stephen V. Skalko, Portland Cement Association

COMMENT ON PROPOSAL NO: 5000-643

RECOMMENDATION: Deleted text:

46.3.5.1.1 The following assembly occupancies shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 55.3.1.1(1):

(1) Bars with live entertainment
(2) Dance Halls
(3) discotheques
(4) Nightclubs
(5) Assembly occupancies with festival seating

SUBSTANTIATION: No convincing substantiation is presented in the reason statement, nor was it presented at the Technical Committee on Assembly Occupancies and Membrane Structures meeting, to show that all of the assembly occupancies listed in the new Section 16.3.5.1 should be provided with sprinkler protection when the occupant load exceeds 50 people. In the reasoning statement the focus is on nightclubs. However, the proposal includes bars with live entertainment and other than a dance hall or discotheque. These additional uses do not necessarily have characteristics like nightclubs and discotheques, which were identified as problems because the interior configurations are constantly changing or the facility experienced overcrowding regularly.

For example, consider a restaurant that will seat 150 people and has a small lounge (bar) with a seating capacity of 60 persons with a musician strolling around entertaining the patrons. That establishment is not likely to operate with constantly changing configurations, nor overcrowding because of space limitations. Proposal 5000-643 would require sprinkler protection without showing justification. Or consider the small church with a fellowship hall accommodating 150 youth every Friday night for dancing. Is this facility the type of assembly occupancy the committee intended should be sprinklered with the use of the term dance hall? Finally consider a school dining hall that also functions as an auditorium without fixed seating. If occasionally festival type seating, which is defined in the code as “a form of audience/spectator accommodation in which the number of patrons is difficult to define or recognize. The text proposed at the ROP stage would require sprinklering of a fire house where elementary school students visit and sit on the floor.

The Technical Correlating Committee requested that NFPA 13 be referenced directly rather than 55.3.1.1(1).

NUMBER ELIGIBLE TO VOTE: 30

BALLOT RESULTS: Affirmative: 10 Negative: 10

BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

EXPLANATION OF NEGATIVE:

ADAMS: I still feel that festival sitting in assembly occupancies still needs to be part of the original list.

CONNER: I am voting negative on the Committee Action of Accept in Part (APA) and am in favor of rejecting the proposal. After review I have decided that the risk of an AHJ in determining that an occupancy will likely have festival seating or in misunderstanding festival seating is small and that the intent of our definition of festival seating is solely to address those occupancies where overcrowding and similar hazards exist. I do believe the committee should revise the definition and/or annex so it is clearer that school children in a firehouse or Boy Scouts in a church hall are not constructed as festival seating simply because there are not assigned chairs for everyone.

I do agree with the reference to NFPA 13 that appears to have been added as part of the amended comment and believe that this is a matter of style and correlation, not of change.

FARR: I am voting against the Committee Action as I feel that Assembly Occupancies with Festival Seating should continue to be a part of the list as originally submitted.

HAYES: Festival Seating by nature offers issues with overcrowding. No exemption should apply here regarding a fire suppression system. A perfect example would be the West Warwick Fire, people were stepping on each other to get away from the fire. The crowd crush that ensued actually stopped people from getting out. A fire suppression system would have aided in the exiting of the building.

HUGGINS: The potential for high loss of life from a fire is readily apparent in assembly occupancies with festive seating. Sprinklers are extremely effective in reducing the risk as shown through field experience and testing at agencies such as NIST. The guidance in the Annex clearly shows what types of facilities are intended to be protected so extreme examples of misapplication is not a reason to reduce the level of fire protection.

KELLY: Requiring sprinkler protection for assembly occupancies with festival seating is the one of the main reasons that the TIAs were issued. Assembly occupancies, that utilize festival seating, are regularly used as temporary nightclubs, discotheques, dance halls, and bars with live entertainment. Festival seating in any assembly occupancy increases the chance of “crowd crushing” during an evacuation in an emergency situation. This sprinkler requirement needs to be retained to allow occupants time to safely exit the building.

LAKE: By the sheer definition this segment of an assembly occupancy should be protected. There is no clear argument that should exempt them from the sprinkler requirement.

3.3.474.1* Festival Seating. A form of audience/spectator accommodation in which no seating, other than a floor or ground surface, is provided for the audience/spectators gathered to observe a performance.
A.3.3.474.1 Festival Seating. Festival seating describes situations in assembly occupancies where live entertainment events are held that are expected to result in overcrowding and high audience density that can compromise public safety. It is not the intent to apply the term festival seating to exhibitions; sports events; dances; conventions; and bona fide political, religious, and educational events. Assembly occupancies with 15 ft² (1.4 m²) or more per person should not be considered festival seating.

PAULS: Having a chance to review my fellow Assembly TC members ballots, please record me as voting negatively on 101-221, 101-233 and 5000-2. I am persuaded by the negative ballots committee members that all the items should be included in the list of assembly occupancies requiring sprinkler protection. I appreciate that this requires some judgment on the part of enforcing authorities -- using the annex note to the definition of “Festival Seating.” Thus my desired action on the comments is “Reject” except that the reference to the NFPA 13 standard in NFPA 5000 16.3.5.1.1.2 could go ahead as editorial.

PEAVEY: There is no clear argument to exempt assembly occupancies with festival seating from this requirement. Inherently these types of occupancies are subject to overcrowding as much if not more than the other types listed in this requirement. This is further supported by existing language in the definition section of NFPA 101, see excerpts below:

101-3.3.188.1* Festival Seating. A form of audience/spectator accommodation in which no seating, other than a floor or ground surface, is provided for the audience/spectators gathered to observe a performance.

A.3.3.188.1 Festival seating refers to situations in assembly occupancies where live entertainment events are held that are expected to result in overcrowding and high audience density that can compromise public safety. It is not the intent to apply the term festival seating to exhibitions; sports events; dances; conventions; and bona fide political, religious, and educational events. Assembly occupancies with 1.4 m² (15 ft²) or more per person should not be considered festival seating.

VICTOR: I agree with several of the other committee members, that festival seating should remain on the list.

COMMITTEE STATEMENT ON AFFIRMATIVE

SKALKO: Though the committee did agree to remove assembly occupancies with festival seating from the proposed sprinkler thresholds, the proposed language still lists some assembly occupancy types that are not consistent with the fire incidences in nightclubs (The Station, Warwick, RI and E2 Club, Chicago, IL) that were used to justify the original proposal. The Technical Committee should consider further clarification in the future of the types of bars with live entertainment and dance halls that are of such a hazardous condition that sprinklers are necessary for life safety. If the bar is just a lounge with 50 seats in a larger restaurant, or the dance hall is for 200 people in a church fellowship hall, the justification for mandating sprinklers based on their fire record is far different than all bars with live entertainment or all dance halls.

TUBBS: The life safety analysis may show that a sprinkler system would be necessary. To emphasize this, I would suggest that item 5 should read: “Assemble with festival seating where the required life safety analysis requires sprinklers.” Perhaps this would need to be revised to fit the manual of style.

5000-450 Log #129 BLD-AXM FINAL ACTION: Accept in Principle (16.4.3.3.3) Exception No. 1)

SUBMITTER: Technical Correlating Committee on Building Code COMMENT ON PROPOSAL NO: 5000-564 RECOMMENDATION: Retain acceptance of ROP proposal 5000-649.

COMMITTEE STATEMENT: The ROP action adequately addresses the subject.

NUMBER ELIGIBLE TO VOTE: 30 BALLOT RESULTS: Affirmative: 21 Negative: 3 BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

EXPLANATION OF NEGATIVE: MILLER: The committee did not address the prior explanation of negative comments and just reaffirmed its prior position. A portion of my prior negative comments is below:

There are several reasons why removal of this exception is not appropriate. First, there is no technical justification submitted for the change. The generalization statement used for the proposal does not meet the standard of care noted in 3-3.6 of the Regulations Governing Committee Projects which states that the basis for a committee’s recommendation shall be “on one or more of the following factors; namely, fire experience, research data, engineering fundamentals, or other such information as may be available”. No fire experience, research data or engineering fundamentals have been offered as support.

Second, if these type of facilities have had the same types of problems as every other assembly occupancy then there should be such data and the purported position be much stronger than that submitted. Places of worship have enjoyed the use of this exception in the Life Safety Code for many years. Had there been a serious loss of life or threat to fire fighter safety then that information would have surfaced long ago.

SKALKO: Like Mr. Miller and Mr. Wills, the Technical Committee’s reason given for the committee action does not address the technical issues raised by our previous negative ballots. Therefore the action taken is unsubstantiated as is the proposal to eliminate the exception for sprinkler protection for places of assembly used exclusively for worship.

LAKES: While the ROP committee failed to adequately discuss or consider the referenced negatives. The TC’s substantiation for rejecting this comment noted that the “ROP action adequately addresses the subject”. Since this action started as a committee proposal, the only written substantiation ever provided for this change was the substantiation for CP1005 which stated, “The exception is in NFPA 5000 which only addresses life safety. NFPA 5000 addresses more than life safety, including fire fighter safety, mission continuity/property protection”. While this substantiation is a statement of fact, it fails to provide any justification for the action taken. Regardless of personal opinion on this issue, the public deserves more substantive documentation and justification for a change of this significance. Anything less is an abuse of the NFPA process.

COMMENT ON AFFIRMATIVE

LAKE: In looking at the overall issue of the church exemption, there seems to be commentary that is without basis. I agree that we should not let emotions rule our decisions and I offer the following information:

The US Fire Problem Overview Report, Public Assembly Properties (excluding eating and drinking establishments) speaks to this subject very clearly. In the report you will find, religious or funeral properties are number 1 in fires, number 1 in fire deaths, number 1 in civilian injuries and number one in fire property damage (cited in NFPA 5000). The US Fire Problem Overview Report, Public Assembly Properties (excluding eating and drinking establishments) speaks to this subject very clearly. In the report you will find, religious or funeral properties are number 1 in fires, number 1 in fire deaths, number 1 in civilian injuries and number one in fire property damage (cited in NFPA 5000) for the years 1994-1998. The averages for 1994-1998 show approximately 2,000 with 2 deaths, 33 injuries per year, with direct property damage of $57,400,000.00 (30 percent of the fires in these types of properties). I think this is more than enough information to justify the change. These buildings and more importantly the people inside them deserve to be safe as any other assembly occupancy.

5000-452 Log #472 BLD-AXM FINAL ACTION: Reject (16.4.3.3.3)
COMMITTEE MEETING ACTION: Accept in Principle

Revised as follows:
16.4.5.7 Gridiron, Fly Galleries, and Pinrails.
16.4.5.7.1 Structural framing designed only for the attachment of portable or fixed theater equipment, gridirons, galleries, and catwalks shall be constructed of materials consistent with the building type of construction, and a fire resistance rating shall not be required.
16.4.5.7.2 Fire-retardant-treated wood shall be permitted for fly galleries and pinrails of all types of construction.
16.4.5.7.3 Fire-retardant-treated combustible materials shall be permitted for use as floors of galleries and catwalks of all types of construction.

COMMITTEE STATEMENT: The action does what the submitter requested, but more clearly shows the changed text based on the exception to 16.4.5.7 having been rejected by ROP Proposal 5000-621.

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-455 Log #543 BLD-END
FINAL ACTION: Reject

(17.3.5)


COMMENT ON PROPOSAL NO: 5000-664
RECOMMENDATION: Reject proposal and revert to current existing code language in NFPA 5000.

SUBSTANTIATION: This comment intends that the TC reject the proposal in its entirety. Communities already have the option of taking advantage of the sprinkler trade-offs at the early stages of a project. This proposal does not enhance that at all, merely takes away other options which may well be more cost effective or safer in a given situation while not relying solely on the community having the infrastructure to support sprinklering.

The proponent refers to “cost savings” for communities, but presents no data (or even an approximation) of what savings he foresees. They also cite a 1994 statistic indicating that there are over 5200 school fires annually, and that the dollar losses approached $69 million, but do not give any data on how many of those schools were sprinklered, or what the proportional dollar loss cost was.

The proponent has provided some general information, but has not submitted any justification for eliminating design choice. In the absence of any data of any kind indicating that the current options are unsafe (or that one is “safer” than the other) the Committee should reject the proposal.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Basing the sprinkler requirement on overall building area, not fire compartment area, is justified.

NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

5000-456 Log #540 BLD-END
FINAL ACTION: Reject

(17.3.5)


COMMENT ON PROPOSAL NO: 5000-664
RECOMMENDATION: Do not make the revisions proposed to Section 17.3.5 and its subsections, thus retaining the current code text.

SUBSTANTIATION: No technical justification was provided by the submitter or the Technical Committee to substantiate the elimination of the 20,000 ft² compartmentation approach for establishing an automatic sprinkler system threshold for education occupancies. Nor were any statistics provided to show that such a compartment size was too large where the compartments were properly separated with 2 hour fire barriers. This same size fire compartment has been in several other model building codes for many years and we are not aware of any documented problems in those jurisdictions that have adopted those codes.

Our other concern is that this change in the sprinkler threshold will result in more educational occupancies being constructed with the many sprinkler trade-offs currently allowed by this code including the elimination of the 1-hour corridor requirement as an example. We believe in a balanced design approach to providing fire safety in buildings based on a realistic assessment of the fire problem associated with the specific occupancy. It may be wiser to consider a combination of compartmentation and automatic sprinkler protection for educational occupancies if the submitter’s concerns as expressed in his submission can be adequately addressed.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Basing the sprinkler requirement on overall building area, not fire compartment area, is justified.

NUMBER ELIGIBLE TO VOTE: 12
5000-203
COMMITTEE STATEMENT: This occupancy employs "cot" areas which are not within bedrooms, so the current text needs to be maintained to assure that smoke alarms will be present. In other words, NFPA 101 imposes smoke alarm requirements that are stricter than those in NFPA 72. Also, see the Committee Statement for the rejection of ROP Proposal 5000-675.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7 BROOKS, FISHBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The subject is more than an operational issue. The design professional, and operator must know these provisions in order to design/build the facility. For example, alcoves might need to be identified if projections into the corridor are excessive. Flooring material directly below the dispensing units needs to be specified for compliance. Gaps in rails/bumpers might need to be specified before such materials are installed.

SUBSTANTIATION: This is an operational issue outside the scope of a building code.

COMMENT ON PROPOSAL NO: 5000-460
RECOMMENDATION: Convert to Annex note
SUBMITTER: Joseph T. Holland, III, Hoover Treated Wood Products
COMMENT ON PROPOSAL NO: 5000-677
RECOMMENDATION: Revise text to read as follows:
19.1.6.2 Health care occupancies shall be limited to the types of building construction shown in Table 18.1.6.2. (See 5.2.1.)
Exception: Any building of Type I (443), Type II (332), Type II (222), or Type II (111) construction shall be permitted to include roofing systems involving combustible supports, decking, or roofing, provided that the following criteria are met:
(a) The roof covering meets Class A requirements in accordance with NFPA 250, Standard Methods of Fire Tests of Roof Coverings, and:
(b) The roof is separated from all occupied portions of the building by a noncombustible floor assembly having not less than a 2-hour fire resistance rating that includes not less than 0.75 in. (6.4 cm) of concrete or gypsum fill.
(c) The roof/ceiling assembly is constructed with fire-retardant-treated wood meeting the requirements of NFPA 5000. The roof/ceiling assembly shall have fire resistance-rated floor assembly shall be required to have only the fire resistance rating required of the building or:

5000-459 Log #576 BLD-HEA FINAL ACTION: Accept in Principle (19.1.6.2)
SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The subject is more than an operational issue. The design professional, and operator must know these provisions in order to design/build the facility. For example, alcoves might need to be identified if projections into the corridor are excessive. Flooring material directly below the dispensing units needs to be specified for compliance. Gaps in rails/bumpers might need to be specified before such materials are installed.

SUBSTANTIATION: This is an operational issue outside the scope of a building code.

COMMENT ON PROPOSAL NO: 5000-665
RECOMMENDATION: Convert to Annex note
SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The subject is more than an operational issue. The design professional, and operator must know these provisions in order to design/build the facility. For example, alcoves might need to be identified if projections into the corridor are excessive. Flooring material directly below the dispensing units needs to be specified for compliance. Gaps in rails/bumpers might need to be specified before such materials are installed.

SUBSTANTIATION: This is an operational issue outside the scope of a building code.

COMMENT ON PROPOSAL NO: 5000-457
RECOMMENDATION: Convert to Annex note
SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The subject is more than an operational issue. The design professional, and operator must know these provisions in order to design/build the facility. For example, alcoves might need to be identified if projections into the corridor are excessive. Flooring material directly below the dispensing units needs to be specified for compliance. Gaps in rails/bumpers might need to be specified before such materials are installed.

SUBSTANTIATION: This is an operational issue outside the scope of a building code.
after exposure). Protecting occupants from collapse of a one-hour rated roof constructed of wood and not protecting them from collapse of a one-hour rated steel roof seems inconsistent.

The proposal requires protection from below (either 2, 1.5 or 1 hour depending on the type of construction); protection from above (Class A roof covering) while recognizing the unique characteristics of FRTW.

While we like the committee’s position that 220 will allow what we are asking our request is not necessary, we do not agree. It’s our understanding, in discussion, with staff that the provisions in the occupancy chapters, such as, 18 and 19 override general provisions in the LSC and other codes.

COMMITTEE MEETING ACTION: Accept in Principle

Insert a new 19.1.6.3 (and renumber existing 19.1.6.3 to become 19.1.6.4) as follows:

19.1.6.3 Any building of Type I(d42), Type I(d32), Type II(d22), or Type III(h11) construction shall be permitted to include roofing systems involving combustible supports, decking, or roofing, provided that the following criteria are met;

(1) The roof covering shall meet Class A requirements in accordance with NFPA 256, Standard Methods of Fire Tests of Roof Coverings.

(2) The roof/ceiling assembly shall be constructed of fire-retardant-treated wood meeting the requirements of this Code.

(3) The roof/ceiling assembly shall have the required fire resistance rating for the type of construction.

COMMITTEE STATEMENT: The action accomplishes what the submitter intended, but does so as a stand-alone provision not tied to existing 19.1.6.2. The text not accepted is extraneous and unnecessary to meet the need. The intended, but does so as a stand-alone provision not tied to existing 19.1.6.2.

SUBMITTER: Linda Delano, Devenney Group Ltd.

COMMITTEE MEETING ACTION: Reject

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7 BROOKS, FISHBECk, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-463 Log #223 BLD-HEA FINAL ACTION: Reject (19.2.3.4(3))

SUBMITTER: Kenneth E. Bush, Office of the Maryland State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-684

RECOMMENDATION: Revise the wording of this subparagraph as follows:

Where minimum corridor width is 1830 mm (72 in.), projections of maximum 152 mm (6 in.) from the corridor wall, above handrail height, shall be permitted for the installation of hand-rub dispensing units in accordance with 19.2.2.6.

SUBSTANTIATION: There seems to be no legitimate reason to permit restrictions to the clear widths of corridors only for the installation of hand rub dispensers. There are many other devices, such as decorations, building service equipment controls, and alarm initiation and notification appliances, which would provide for less restriction and introduce less hazards, but are not permitted by the wording in the original proposal.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The provisions of 19.2.3.3(3) are meant to be specific to alcohol-based hand-rub solutions. It is the provisions of 19.2.3.3(4) [per ROP Proposal 5000-681] that are general in nature. The provisions of 19.2.3.4(2) are meant to be specific to alcohol-based hand-rub solutions. It is the provisions of 19.2.3.4(3) [per ROP Proposal 5000-681] that are general in nature.

COMMITTEE STATEMENT: The provisions of 19.2.3.3(3) are meant to be specific to alcohol-based hand-rub solutions. It is the provisions of 19.2.3.3(4) [per ROP Proposal 5000-681] that are general in nature. The provisions of 19.2.3.4(2) are meant to be specific to alcohol-based hand-rub solutions. It is the provisions of 19.2.3.4(3) [per ROP Proposal 5000-681] that are general in nature.

COMMITTEE STATEMENT: The provisions of 19.2.3.3(3) are meant to be specific to alcohol-based hand-rub solutions. It is the provisions of 19.2.3.3(4) [per ROP Proposal 5000-681] that are general in nature. The provisions of 19.2.3.4(2) are meant to be specific to alcohol-based hand-rub solutions. It is the provisions of 19.2.3.4(3) [per ROP Proposal 5000-681] that are general in nature.

COMMITTEE MEETING ACTION: Accept in Principle

5000-464 Log #427 BLD-HEA FINAL ACTION: Accept in Principle (19.2.5.6)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-683

RECOMMENDATION: Revise text as follows:

(1) 5.2.5.2 Delete “on the furnishings and furniture, in combination…”

(2) 19.2.5.6.1.3.2 add “unless otherwise provided in 19.2.5.6.1.3.3” to the end of the paragraph.

(3) Add a 19.2.5.6.1.3.3 reading the same as 19.2.5.6.1.3.3 in NFPA 101 inserting “all” between “with” and “the”

(4) 19.2.5.6.1.2(c) add “and staff shall provide supervision from a normally attended location with the suite” at the end of the sentence.

(5) Revise 19.2.5.6.1.2(b) by changing “8 ft (2440 mm)” to “5 ft (xxx mm)”

SUBSTANTIATION: (1) This material was from chapter 19 (19.3.6.1 Ex 6 (b)) of NFPA 101 should not be applied to installing the smoke detector in new construction presents no hardship and allows flexibility during use of the building.

(2) Is needed for comment (3)

(3) allows non-sleeping suites that are hazardous areas without further subdivision within the suite, such as pharmacies, medical records, etc.

(4) It was never the intent to allow sleeping suites without supervision in the suite.

(5) The higher partitions were negotiated based on existing conditions. Based on A11.3.4.1 it is necessary to keep the partitions lower than 5 ft if most staff are going to be able to see above the partitions. This does not present a hardship in new construction, as if higher partitions are desired smoke detection can be provided and the higher partitions use.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The action on the referenced comment should meet the submitter’s intent. The action is consistent with that done in NFPA 101 and results from the action of the report of the health care occupancies task group on suites and arrangement of means of egress.

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COMMITTEE STATEMENT: The action on the referenced comment should meet the submitter’s intent. The action is consistent with that done in NFPA 101 and results from the action of the report of the health care occupancies task group on suites and arrangement of means of egress.
19.2.5.6.2.1.1 Occupants of habitable rooms within sleeping suites shall have exit access to a corridor complying with 19.3.6 without having to pass through more than one intervening room.

19.2.5.6.2.1.1.1 For the purposes of this paragraph it is the intent that “habitable rooms” not include individual bathrooms, closets, and similar spaces, as well as briefly occupied work spaces such as control rooms in radiology and small storage rooms in a pharmacy. The term “intervening room” means a room serving as a part of the required means of egress from another room.

19.2.5.6.2.1.2 Sleeping suites shall be provided with constant staff supervision within the suite.

19.2.5.6.2.1.3 Sleeping suites shall be arranged in accordance with one of the following:

(a) **(19.2.5.6.2.2.3 and 19.2.5.6.3.2.3)** Occupants of habitable rooms within sleeping suites shall have exit access to a corridor complying with 19.3.6 without having to pass through more than one intervening room.

(b) Sleeping suites shall be arranged in accordance with one of the following:

(i) The patient sleeping rooms shall be arranged to allow for direct supervision from a normally attended location within the suite such as provided by glass walls, and cubicle curtains shall be permitted.

(ii) Any patient sleeping rooms without the direct supervision required by glass walls, and cubicle curtains shall be permitted.

(c) The suite is separated from the remainder of the suite in accordance with 19.3.2.1, unless otherwise provided in 19.2.5.6.2.1.2.

A.19.2.5.6.1.3.2 Hazardous areas within a suite shall be separated from the remainder of the suite in accordance with 19.3.2.1, unless otherwise provided in 19.2.5.6.2.1.2.

A.19.2.5.6.2.1.3.3* Hazardous areas within a suite shall not be required to be separated from the remainder of the suite where complying with all the following:

(a) The suite is primarily a hazardous area

(b) The suite is protected by an approved automatic smoke detection system in accordance with Section 55.2 or the furnishings and furniture, in combination with all other combustibles within the area, are of such minimum quantity and arrangement that a fully developed fire is unlikely to occur.

19.2.5.6.2.1.3.4* Hazardous areas within a suite shall be separated from the remainder of the suite in accordance with 19.3.2.1, unless otherwise provided in 19.2.5.6.2.1.2.

A.19.2.5.6.1.3.3 Examples of suites that might be hazardous areas are medical records and pharmaceutical suites.

A.19.2.5.6.2.1.1 Examples of sleeping suites that might be hazardous areas are medical records and pharmaceutical suites.

A.19.2.5.6.2.1.1.1 Examples of sleeping suites that might be hazardous areas are medical records and pharmaceutical suites.

19.3.4.3 Notification.

A.19.2.5.6.2.1.3(a) where the second exit access for a sleeping suite is through an adjacent suite, it is the intent that the adjacent suite not be considered an intervening room.

SUBSTANTIATION: Clarification of intent. Same as annex text added to NFPA 101 via committee action on Comment 101-249.

COMMITTEE MEETING ACTION: Accept NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7 BROOKS, FISHEBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-466 Log #577 BLD-HEA

FINAL ACTION: Reject

(19.3.2.6)

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-684

RECOMMENDATION: Convert to Annex note.

SUBSTANTIATION: This is an operational issue outside the scope of a building code.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The subject is more than an operational issue.

The design professional, owner and operator must know these provisions in order to design/build the facility. For example, alcoves might be needed if projections into the corridor are excessive. Flooring material directly below the dispensing units needs to be specified for compliance. Gaps in rails/bumpers might need to be specified for such materials are installed.

Also, the subject needs to be addressed directly in the body of the Code as there is much misinformation on the subject of alcohol-based hand rub solutions. The provisions are an exemption to permit Class 1 flammable liquids, but the submitter’s characterization is incorrect. The alcohol-based hand rub solutions are not anything like gasoline whose characteristics are quite different.

NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7 BROOKS, FISHEBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-466 Log #602 BLD-HEA

FINAL ACTION: Accept in Principle

(19.3.4.3.2(B))

SUBMITTER: J. Jeffrey Moore, Hughes Associates, Inc.

COMMENT ON PROPOSAL NO: 5000-687

RECOMMENDATION: Accept Proposal 5000-687.

SUBSTANTIATION: This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems.

The subject of Section 19.3.4.3.2 is emergency forces notification. This notification will not occur until positive alarm sequence or alarm verification (where used) is complete. If positive alarm sequence is specified, location in another section would be more appropriate. Note that Section 55.2.3.4 addresses positive alarm sequence under occupant notification. If “positive alarm sequence” is specified (as indicated in Proposal 5000-686), the timing for this sequence should be consistent with that addressed in NFPA 72. The timing for positive alarm sequence is specified in NFPA 72 and includes an allowance of up to 15 seconds for acknowledgment and then up to 180 seconds for alarm investigation. The proposed language does not reflect this two-phase sequence terminology and will cause confusion in implementation. The acknowledgment period should agree with that in NFPA 72. (If a different timing of the investigation phase is specified, the rationale for the different timing should be addressed and provided as annex material for the related code section in accordance with Annex A-9 of the NFPA Committee Officer’s Guide.)

COMMITTEE MEETING ACTION: Accept in Principle

Revise as follows:

19.3.4.3 Notification. Positive alarm sequence in accordance with 55.2.3.4 shall be permitted.
19.3.4.3.1 Occupant Notification.
(A) Occupant notification shall be accomplished automatically in accordance with 55.2.3. Use of the provisions of 55.2.3.2 shall be prohibited.
(B) In lieu of audible alarm signals, visible alarm-indicating appliances shall be permitted to be used in critical care areas.

19.3.4.3.2 Emergency Forces Notification.
(A) Fire department notification shall be accomplished in accordance with 55.2.4.
(B) Smoke detection devices or smoke detection systems equipped with automatic emergency forces notification system shall be required to automatically notify the fire department, unless the alarm condition is reconfirmed after a period not exceeding 120 seconds.

19.3.4.3.3 Alarm Annunciation.
(A) Alarm annunciation shall be provided in accordance with 55.2.7.
(B) The alarm zone shall be permitted to coincide with the permitted area for smoke compartments.

COMMITTEE STATEMENT: Positive alarm sequence will permit a 180 second delay before remote signals are sent off-site. This will help to prevent unnecessary runs by the fire department. With the addition of text permitting positive alarm sequence, 19.3.4.3.2(B) can be deleted.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15

5000-467 Log #250 BLD-HEA

SUBMITTER: Technical Committee on Fundamentals of Fire Alarm Systems
COMMENT ON PROPOSAL NO: 5000-688
RECOMMENDATION: Accept proposal as written with last sentence: “Annunciation shall be at a constantly attended location”
SUBSTANTIATION: It is our understanding that a staff response is required per 5000-19.1.1.1.9 and the objective of location announcement at a constantly attended location is to facilitate that response. This would not replace the announcement required at the command center by 5000-25.7.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: Staff response is addressed by occupant notification provisions of 19.3.4.3 and 55.2.3.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7 BROOKS, FISHEBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-468 Log #575 BLD-HEA

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal
COMMENT ON PROPOSAL NO: 5000-690
RECOMMENDATION: Reconsider.
SUBSTANTIATION: Section 55.5.1 addresses the needs of AHJ’s seeking to prohibit sprinklers. Prohibition of sprinklers without alternative suppression systems is a direct reduction of life safety requirements without alternative safeguards. A double jeopardy created by a minority of AHJ’s, in the manner described, indicates an issue more properly addressed by educational efforts rather necessitating an illogical requirement in a national standard that prevents all health care facilities from being sprinklered. The multiple fatality fires in 2003 clearly indicate that unsprinklered health care facilities are inappropriate.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: Alternative protection acceptable to the AHJ is not necessarily an alternative suppression system.

The provision of 19.3.5.2 is very much needed to prevent an AHJ who prohibits sprinklers in a particular area from then ruling that the building is not fully sprinklered and denying use of the features permitted for sprinklered buildings. This provision keeps such “Catch 22” situations for occurring. As long as the AHJ does not prohibit sprinklers in any area, the sprinklers will be installed throughout the building per NFPA 13.

NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7 BROOKS, FISHEBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-469 Log #574 BLD-HEA

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal
COMMENT ON PROPOSAL NO: 5000-692
RECOMMENDATION: Reconsider.
SUBSTANTIATION: The current protection does not work adequately without door closers on patient room doors. The 16 fire fatalities in Hartford and the 14 fire fatalities in Nashville in 2003, occurred in patient rooms where the door was open and closers were not provided. These fatalities would not have happened as shown by the survival of patients in adjacent rooms where the doors remained closed.

The committee’s assumptions are no longer valid:

a) Staff is trained and drilled. The GAO report indicates that this is not dependable effective.
b) Doors being left open 10-40 degrees. Door hold open / self closing devices can have intermediate stops installed to achieve partial hold open.
c) Door plate closure on staff attempting rescue suggests a rescue that is extremely risky and beyond the capability of unprotected staff. If the room is near flashover, the open door will guarantee fire spread to the corridor, preventing any additional staff intervention, such as closing doors. Minimal 3rd shift staffing prevents proper two person rescue attempts.

The current protection does not work adequately without door closers on patient room doors. The 16 fire fatalities in Hartford and the 14 fire fatalities in Nashville in 2003, occurred in patient rooms where the door was open and closers were not provided. These fatalities would not have happened as shown by the survival of patients in adjacent rooms where the doors remained closed.

The committees’ assumptions are no longer valid:

a) Staff is trained and drilled. The GAO report indicates that this is not dependable effective.
b) Doors being left open 10-40 degrees. Door hold open / self closing devices can have intermediate stops installed to achieve partial hold open.
c) Door plate closure on staff attempting rescue suggests a rescue that is extremely risky and beyond the capability of unprotected staff. If the room is near flashover, the open door will guarantee fire spread to the corridor, preventing any additional staff intervention, such as closing doors. Minimal 3rd shift staffing prevents proper two person rescue attempts.

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c) Door plate closure on staff attempting rescue suggests a rescue that is extremely risky and beyond the capability of unprotected staff. If the room is near flashover, the open door will guarantee fire spread to the corridor, preventing any additional staff intervention, such as closing doors. Minimal 3rd shift staffing prevents proper two person rescue attempts.

The committees’ assumptions are no longer valid:

a) Staff is trained and drilled. The GAO report indicates that this is not dependable effective.
b) Doors being left open 10-40 degrees. Door hold open / self closing devices can have intermediate stops installed to achieve partial hold open.
c) Door plate closure on staff attempting rescue suggests a rescue that is extremely risky and beyond the capability of unprotected staff. If the room is near flashover, the open door will guarantee fire spread to the corridor, preventing any additional staff intervention, such as closing doors. Minimal 3rd shift staffing prevents proper two person rescue attempts.
Committee Statement: Positive alarm sequence will permit a 180 second delay before remote signals are sent off-site. This will help prevent unnecessary runs by the fire department. With the addition of text permitting positive alarm sequence, 20.3.4.4(B) can be deleted.

Number Eligible to Vote: 22

Ballot Results: Affirmative: 15

Ballot Not Returned: 7 Brooks, Fishbeck, Freire, Harris, Mills, Stevens, Taylor

Committee Meeting Action: Reject

Committee Statement: The provision is meant to be specific to alcohol-based hand-rub solutions.

Number Eligible to Vote: 22

Ballot Results: Affirmative: 15

Ballot Not Returned: 7 Brooks, Fishbeck, Freire, Harris, Mills, Stevens, Taylor

5000-471 Log #575 BLD-HEA Final Action: Reject (20.3.2.4)

Submitter: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

Comment on Proposal No: 5000-702

Recommendation: Convert to Annex note.

Substantiation: This is an operational issue outside the scope of a building code.

Committee Meeting Action: Reject

Committee Statement: The subject is more than an operational issue. The design professional, owner and operator must know these provisions in order to design/build the facility. For example, alcoves might be needed if projections into the corridor are restrictive. Flooring material directly below the dispensing units needs to be specified for compliance. Gaps in rails/bumpers might need to be specified before such materials are installed.

Also, the subject needs to be addressed directly in the body of the Code as there is much misinformation on the subject of alcohol-based hand-rub solutions. The provisions are an exemption to permit Class 1 flammable liquids, but the submitter’s characterization is incorrect. The alcohol-based hand rub solutions are not anything like gasoline whose characteristics are quite different.

Number Eligible to Vote: 22

Ballot Results: Affirmative: 15

Ballot Not Returned: 7 Brooks, Fishbeck, Freire, Harris, Mills, Stevens, Taylor

5000-472 Log #601 BLD-HEA Final Action: Accept in Principle (20.3.4.4(B))

Submitter: J. Jeffrey Moore, Hughes Associates, Inc.

Comment on Proposal No: 5000-704


Substantiation: This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems.

The subject of Section 20.3.4.4 is emergency forces notification. This notification will not occur until positive alarm sequence or alarm verification (where used) is complete. If positive alarm sequence is specified, location in another section would be more appropriate. Note that Section 55.2.3.4 addresses positive alarm sequence under occupant notification.

If “positive alarm sequence” is specified (as indicated in Proposal 5000-703), the timing for this sequence should be consistent with that addressed in NFPA 72. The timing for positive alarm sequence is specified in NFPA 72 and includes an allowance of up to 15 seconds for acknowledgment and then up to 180 seconds for alarm investigation. The proposed language does not reflect this two-phase sequence terminology and will cause confusion in implementation. The acknowledgment period should agree with that in NFPA 72. If a different timing of the investigation phase is specified, the rationale for the different timing should be addressed and provided as annex material for the related code section in accordance with Annex A-9 of the NFPA Committee Officer’s Guide.

Committee Meeting Action: Accept in Principle

Revise as follows:

20.3.4.3 Notification. Positive alarm sequence in accordance with 55.2.3.4 shall be permitted.

(a) Occupant Notification. Occupant notification shall be accomplished automatically, without delay, in accordance with 55.2.3 upon operation of any fire alarm initiating device.

20.4.3.3.2 20.4.3.4 Emergency Forces Notification.

(A) Fire department notification shall be accomplished in accordance with 55.2.4.

(B) Smoke detector devices or smoke detection systems equipped with reconfirmation features shall not be required to automatically notify the fire department, unless the alarm condition is reconfirmed after a period not exceeding 120 seconds.

20.4.4.4 20.4.5 Emergency Control. Operation of any activating device in the required fire alarm system shall be arranged to accomplish automatically any control functions required to be performed by that device. (See 55.2.5.)
COMMITTEE STATEMENT: No specific action necessary.

COMMITTEE STATEMENT: No action.

BALLOT RESULTS: NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

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SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Review the action on this proposal and determine if any changes are necessary for their occupancy chapter.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Committee on Detention and Correctional Occupancies
COMMENT ON PROPOSAL NO: 5000-707
RECOMMENDATION: Further revise the text for lock-ups from that shown in ROP Proposal 5000-707 as follows:
21.1.1.1.6 Lock-ups in other than detention and correctional occupancies and health care occupancies shall comply with the requirements of 21.4.5.
21.4.5.1.1 Lock-ups, in occupancies other than detention and correctional occupancies and health care occupancies, where the holding area has capacity for more than 50 detainees shall be classified as detention and correctional occupancies and shall comply with the requirements of Chapter 21 for detention and correctional occupancies.
21.4.5.1.2 Lock-ups, in occupancies other than detention and correctional occupancies and health care occupancies, where any individual is detained for 24 or more hours shall be classified as detention and correctional occupancies and shall comply with the requirements of Chapter 21 for detention and correctional occupancies.
21.4.5.1.3 Lock-ups, in occupancies other than detention and correctional occupancies and health care occupancies, where the holding area has capacity for not more than 50 detainees and where no individual is detained for 24 hours or more shall comply with 21.4.5.1.4 or 21.4.5.1.5.
SUBSTANTIATION: See A.21.1.1.4 as proposed in ROP Proposal 5000-707. Health care occupancies employ a defend-in-place strategy that permits door locking and relies on staff to unlock doors. Health care occupancies need to be exempt from the requirements of Chapter 21, including the new provisions for lock-ups. The BLD-HEA Health Care Occupancies Technical Committee requested the exemption when it reviewed the provisions for lock-ups at its ROC-preparation meeting.

The other change made by this comment is a clarification that the lock-ups (1) where an individual stays more than 24 hours or (2) with more than 50 persons, constitute a detention and correctional facility that must meet all the provisions for a detention and correctional occupancy, not the provisions for lock-ups. The ROP language referring to following “the requirements of Chapter 21 for detention and correctional occupancies” could be misread so as to require following only the provisions of the new subsection on lock-ups.

The actions on the referenced comments where the recommendation to Accept wasadopted are as follows:
5000-480 Log #CC602 BLD-DET FINAL ACTION: Accept (21.1.1 and 21.4.5)
5000-480 Log #CC603 BLD-DET FINAL ACTION: Accept (21.1.1 and 21.4.5)
5000-480 Log #130h BLD-DET FINAL ACTION: Accept in Principle (21.1.1 and 21.4.5)
null
1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not simply sprinkler those areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should pereus the Prince George’s County, Maryland fire experience and promote a simple, inexpensive, solution of a few sprinklers in the high risk areas of the home.

2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system; thus, making the dwelling less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.

3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot be addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION:

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The proponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety that previously thought. Following that argument, it can be seen that the benefits of sprinklers only justify the system in specific cases. And finally, the analysis was performed with certain assumptions about costs. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which result in greatly increased costs. These increases are not reflected in the analysis.

Given the benefits achievable with mandatory sprinklering, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for. Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-717

RECOMMENDATION: Review the action on this proposal.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

The action on Comment 5000-499 should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 16 Negative: 5 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE:

BROWN: No proved cost-benefit over current fire-safety requirements.

HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons:

1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not simply sprinkler those areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should persuade the Prince George’s County, Maryland fire experience and promote a simple, inexpensive, solution of a few sprinklers in the high risk areas of the home?

2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system; thus, making the dwelling less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.

3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION:

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The proponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety that previously thought. Following that argument, it can be seen that the benefits of sprinklers only justify the system in specific cases. And finally, the analysis was performed with certain assumptions about costs. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which result in greatly increased costs. These increases are not reflected in the analysis.

Given the benefits achievable with mandatory sprinklering, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for. Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.
3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION:
FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The proponents have performed with certain assumptions about costs, the two respective cost/benefit analyses [which come to different conclusions], can be harmonized. I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

5000-484 Log #571 BLD-RES FINAL ACTION: Accept in Principle

CHAPTER 22

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

RECOMMENDATION: Reconsider

SUBSTANTIVATION: The arguments for sprinklers and against sprinklers in new one and two family dwellings result in rejection of the proposal once again. Only eight opposing opinions will silence the issue for another three-year cycle.

1) Both sides of the argument agree that statistically, the majority of fire fatalities occur in one and two family dwellings and that children and the elderly are largely the victims.
2) The concept of sprinklers is effective in reducing fire losses and fatalities. By rejecting the proposal, the following adverse outcomes occur:
   1) The committee fails to uphold the high standards and expectations of the NFPA.
   2) The subject is silenced for three years.
   3) The opportunities for communities to adopt sprinkler legislation is lost because the standard does not support it.
   4) The opportunity for the debate to occur in the marketplace among consumers is lost.
5) Rather than being the leader in technology and safety, the committee and its minority become the sole participants in the debate.

The discussion of the merits of sprinkler protection in one and two family dwellings must be returned to the individual communities that adopt legislation and the power of choice must be offered to the consumer so that they can make their own decisions. For those communities that find their life losses from domestic fires acceptable, a means of documenting the exempt status must be provided.

As stated by Mr. Puhllick, adults are capable of making their own decisions. Unfortunately, committee rejections of sprinkler proposals eliminate the possibility of pilot legislation or even sample residential homes that could be provided to allow consumers to see the product that they are buying. If the committee were to approve this proposal, communities would gain the opportunity to provide their local marketplace with a small percentage of sprinkler protected homes. The consumers could exercise their right of choice with their wallets.

Proposal: All new one and two family dwellings shall be protected throughout by an automatic fire sprinkler system installed in accordance with 24.3.5.2. Communities shall be permitted omit sprinklers in new one and two family dwellings if they conduct, document and publish, a fire safety analysis which contains an evaluation of the community characteristics, losses, prevention and education programs and demonstrate that those programs and features offer a preferred level of fire protection. Such fire safety analysis shall be reevaluated by each new local administration and immediately following any fire fatality in the community.

This proposal would raise the awareness of fire safety issues, cause a professional evaluation of fire safety to be conducted periodically, and permit the construction of pilot one and two family dwellings. The debate over fire safety would occur at the immediate local level between the powers in authority and the voting taxpayers/consumers.

When the issue dies in technical committee, it never reaches the end consumer. In “Field of Dreams” the motto was, “If you build it, they will come.” For sprinklers in new one and two family dwellings, it will be, “If you accept it, they will be installed.” A mere eight votes should not prevent the status quo for another three years when children and families are dying in homes fires every day.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Comment 5000-499.

COMMITTEE STATEMENT: The action on Comment 5000-499 should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 16 Negative: 5 Abstain: 1
BALLOT NOT RETURNED: 3
BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE:

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION:

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The proponents have performed with certain assumptions about costs, the two respective cost/benefit analyses [which come to different conclusions], can be harmonized. I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION:
FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The proponents have performed with certain assumptions about costs, the two respective cost/benefit analyses [which come to different conclusions], can be harmonized. I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

5000-212
SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-716

RECOMMENDATION: Reconsider.

SUBSTANTIATION: The arguments for sprinklers and against sprinklers in new one and two family dwellings result in rejection of the proposal one again. Only eight opposing opinions will silence the issue for another three-year code cycle.

1. Both sides of the argument agree that statistically, the majority of fire fatalities occur in one and two family dwellings and that children and the elderly are largely the victims.
2. The concept of sprinklers is effective in reducing fire losses and fatalities. By rejecting the proposal, the following adverse outcomes occur:
   1) The committee fails to uphold the high standards and expectations of the NFPA.
   2) The subject is silenced for three years.
   3) The opportunity for communities to adopt sprinkler legislation is lost because the standard does not support it.
   4) The opportunity for the debate to occur in the marketplace among consumers is lost.
5) Rather than being the leader in technology and safety, the committee and its minority become the sole participants in the debate.

The discussion of the merits of sprinkler protection in one and two family dwellings must be returned to the individual communities that adopt legislation and their objections must be afforded to the consumer so that they can make their own decisions. For those communities that find their life losses from domestic fires acceptable, a means of documenting the exempt status must be provided.

As stated by Mr Puhlick, adults are capable of making their own decisions. Unfortunately, committee rejections of sprinkler proposals eliminate the possibility of pilot legislation or even sample residential homes that could be provided to allow consumers to see the product that they are buying. If the committee were to approve this proposal, communities would gain the opportunity to provide their local marketplace with a small percentage of sprinkler protected homes. The consumers could exercise their right of choice with their wallets.

Proposal: All new one and two family dwellings shall be protected throughout by an automatic fire sprinkler system installed in accordance with 24.3.5.2. Communities shall be permitted omit sprinklers in new one and two family dwellings if they conduct, document and publish, a fire safety analysis which contains an evaluation of the community characteristics, losses, prevention and education programs and demonstrate that those programs and features offer a preferred level of fire protection. Such fire safety analysis shall be reevaluated by each new local administration and immediately following any fire fatality in the community.

This proposal would raise the awareness of fire safety issues, cause a professional evaluation of fire safety to be conducted periodically, and permit the construction of pilot one and two family dwellings. The debate over fire safety would occur at the immediate local level between the powers in authority and the consumers / homeowners.

When the issue dies in technical committee, it never reaches the end consumer. In “Field of Dreams” the motto was, “If you build it, they will come.” For sprinklers in new homes, it will be, “If you accept it, they will be installed.” A mere eight votes should not preserve the status quo for another three years when children and families are dying in homes fires every day.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Comment 5000-499.

COMMITTEE STATEMENT: The action on Comment 5000-499 should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 16 Negative: 5 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE: BROWN: No proposal benefit over current fire-safety requirements.

HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons:
1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not simply sprinkler those areas with piping integrated with the domestic household system and notmandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should peruse the Prince George’s County, Maryland fire experience and promote a simple, inexpensive, solution of a few sprinklers in the high risk areas of the home?
2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system; thus, making the dwelling less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.
3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: The increase in life safety that automatic sprinklers will provide new one- and two-family dwellings does not support their mandatory use in our minimum-based building codes. Most home fires and loss of life occur in older dwellings, as was established in the NAHB study titled “Residential Fire Deaths in the United States: Causes and Solutions”. I believe that any appreciable reductions in the current historically low death rate in one- and two-family dwellings will only come through public education and rehabilitation of older housing, rather than mandating the installation of automatic sprinklers.

NICKSON: Many of the items considered in the cost effective substantiation are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION: FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims a benefit for fire fighter safety which the fire loss data do not support. The opponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety than previously thought. Following that argument, it can be seen that the benefits of sprinklers only justify the system in specific cases. And finally, the analysis was performed with certain assumptions about costs. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which result in greatly increased costs. These increases are not reflected in the analysis.

Given the benefits achievable with mandatory sprinklering, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues. I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for.

Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought-out studies lead to different conclusions so I am compelled to abstain.

5000-486 Log #338 BLD-RES FINAL ACTION: Reject (22.1.2.2)


COMMENT ON PROPOSAL NO: 5000-718

RECOMMENDATION: Reconsider the original proposal.

SUBSTANTIATION: This proposal addresses the dwelling unit’s sole means of egress, not means of escape, which would still be through a carport.

COMMITTEE MEETING ACTION: Reconsider

COMMITTEE STATEMENT: The submitter’s substantiation incorrectly states that a dwelling unit’s sole means of egress. Dwelling units are required to be provided with primary, and in most cases, secondary, means of escape, not means of egress. Because no new technical information has been submitted, the committee stands on its previous statement.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-487 Log #237 BLD-RES FINAL ACTION: Reject (22.1.2.3)(3)

SUBMITTER: Eddie Phillips, Southern Regional Fire Code Development Committee

COMMENT ON PROPOSAL NO: 5000-720

RECOMMENDATION: Approve Proposal 5000-720 as submitted.

SUBSTANTIATION: The Committee Statement indicates that this language is more appropriate in NFPA 72. The issue of where a fire alarm system is required is not specified or within the scope of NFPA 72. Where a system is required is within the scope of NFPA 5000 and NFPA 101. The current code
COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Occupant notification must be provided throughout the building, as prescribed by 55.2.3.6.1; therefore, the proposed language is redundant.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 21; Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF ABSTENTION:

BROWN: NAHB 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

EXPLANATION OF NEGATIVE:

PRITCHETT, WERTHEIMER

RECOMMENDATION:

Affirmative: 8

BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALLI, WARBURTON

REPORT ON COMMENTS — Copyright, NFPA

language in NFPA 5000 section 22.1.2.3(3) only requires fire detection within the non-residential occupancy. There is no notification required within the residential occupancy by either NFPA 5000, NFPA 101 or NFPA 72. We doubt this is the intent of the language in 22.1.2.3. The intent appears to provide early warning to the occupants of the residential occupancy of a fire in the non-residential occupancy and should be addressed.

While there remains some confusion as to what is in the purview of 101 versus 72, there is clearly a need here.

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: Section 16.5 already has all the necessary mandatory references (that is, “pointers”) to Chapters 49 through 54.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 13

BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-490 Log #134b BLD-DET FINAL ACTION: Accept in Principle (22.1.5(12) (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: Section 21.5 already has all the needed mandatory references (that is, “pointers”) to Chapters 49 through 54.

NUMBER ELIGIBLE TO VOTE: 18

BALLOT RESULTS: Affirmative: 13

BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-491 Log #134c BLD-END FINAL ACTION: Accept in Principle (22.1.5(12) (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: Sections 17.5 and 18.5 already have the necessary “pointers” to the provisions of Chapters 49 through 54.

NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 15

BALLOT NOT RETURNED: 7 BROOKS, FISHBECk, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-492 Log #134d BLD-HEA FINAL ACTION: Accept in Principle (22.1.5(12) (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: Section 22.5 as follows:

22.5 Building Services. Heating, ventilating, and air-conditioning equipment shall comply with Chapter 50 and Chapter 51.

22.5.1 Utilities. Utilities shall comply with Chapter 49, Chapter 52 and Chapter 53.

22.5.2 Heating, Ventilating, and Air-Conditioning. Heating, ventilating, and air-conditioning equipment shall comply with Chapter 50 and Chapter 51.

22.5.3 Elevators, Escalators, and Conveyors. Elevators, escalators, and conveyors shall comply with the provisions of Chapter 54.

COMMITTEE STATEMENT: The committee action revises Section 22.5 consistent with the format in Chapter 23, Lodging or Rooming Houses. The action accomplishes what is requested by the Technical Correlating Committee.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

5000-493 Log #134e BLD-RES FINAL ACTION: Accept in Principle (22.1.5(12) (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-721

RECOMMENDATION: Review the action on this proposal and determine what chapters or sections are appropriate to reference with regard to Chapters 49-54 and to determine the extent to which they apply.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

REVISE Section 22.5 as follows:

22.5 Building Services. Heating, ventilating, and air-conditioning equipment shall comply with Chapter 50 and Chapter 51.

22.5.1 Utilities. Utilities shall comply with Chapter 49, Chapter 52 and Chapter 53.

22.5.2 Heating, Ventilating, and Air-Conditioning. Heating, ventilating, and air-conditioning equipment shall comply with Chapter 50 and Chapter 51.

22.5.3 Elevators, Escalators, and Conveyors. Elevators, escalators, and conveyors shall comply with the provisions of Chapter 54.

COMMITTEE STATEMENT: The committee action revises Section 22.5 consistent with the format in Chapter 23, Lodging or Rooming Houses. The action accomplishes what is requested by the Technical Correlating Committee.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM
EXPLANATION OF ABSTENTION:
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE MEETING ACTION: Accept in Principle

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

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SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

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RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-731

RECOMMENDATION: Accept Proposal 5000-731 in full.

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COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

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RECOMMENDATION: Accept Proposal 5000-731 in full.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee’s scope, should be located to prevent or mitigate the incidence of fires and/or their outcome. The proposal fails to define any potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.”

COMMITTEE MEETING ACTION: Reject

5000-498 Log #241 BLD-RES FINAL ACTION: Reject (22.3.4)
BRIESE: In casting an affirmative vote for the provision of automatic sprinkler protection in one and two family dwellings, it is noted that the measure addresses future dwelling units.

Proponents of the proposal have presented emotional testimony to support their position, however the proposed change to the Code will have minimal impact on fire deaths and injuries for years to come. Sprinkler industry estimates show that less than 10 percent of dwelling units would be protected within 5 years of enactment; less then one-third within 20 years; and less then half within 40 years. Clearly, the fire scenarios predicted to support their position will continue to occur well into the foreseeable future.

It is hoped that proponents will display as fervent an interest in addressing current residential fire and life safety challenges as they have with perceived future problems.

BROWN: No proved cost-benefit over current fire-safety requirements.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, etc.

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The opponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety than previously thought. Following that argument, it is hoped that proponents will display as fervent an interest in addressing current residential fire and life safety challenges as they have with perceived future problems.

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The opponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety than previously thought. Following that argument, it is hoped that proponents will display as fervent an interest in addressing current residential fire and life safety challenges as they have with perceived future problems.
can be seen that the benefits of sprinklers only justify the system in specific cases. And finally, the analysis was performed with certain assumptions about codes. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which result in greatly increased costs. These increases are not reflected in the analysis.

Given the benefits achievable with mandatory sprinklerling, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for.

Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

COMMITTEE STATEMENT:

The action on Comment 5000-499 should be perused the Prince George's County, Maryland fire experience and страховка на водопад, in addition to the added cost of the sprinkler system; thus, making the dwelling less affordable. For some people insurance for water damage coverage, in other cases. And finally, the analysis was performed with certain assumptions about codes and standards. This proposal would come at a high unit cost and would present in housing that with other improvements in utilities, cooking appliances, interior finish, smoke alarms (multiple now required) and others which mitigate the incidence of fires and/or their outcome. The proposal fails to differentiate between the risks of one and two family housing which can differ drastically from a three story townhouse with limited means of egress to a one story residence with multiple means of egress. While buyers of newly constructed homes now have a choice with respect to sprinkler protection, this proposal would remove any choice.

The proposed system would be less safe environment merely because they were priced out of a new home. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

For some people insurance for water damage coverage, in other cases. And finally, the analysis was performed with certain assumptions about codes and standards. This proposal would come at a high unit cost and would present in housing that with other improvements in utilities, cooking appliances, interior finish, smoke alarms (multiple now required) and others which mitigate the incidence of fires and/or their outcome. The proposal fails to differentiate between the risks of one and two family housing which can differ drastically from a three story townhouse with limited means of egress to a one story residence with multiple means of egress. While buyers of newly constructed homes now have a choice with respect to sprinkler protection, this proposal would remove any choice.

COMMITTEE STATEMENT:
The action on Comment 5000-499 should be perused the Prince George's County, Maryland fire experience and страховка на водопад, in addition to the added cost of the sprinkler system; thus, making the dwelling less affordable. For some people insurance for water damage coverage, in other cases. And finally, the analysis was performed with certain assumptions about codes and standards. This proposal would come at a high unit cost and would present in housing that with other improvements in utilities, cooking appliances, interior finish, smoke alarms (multiple now required) and others which mitigate the incidence of fires and/or their outcome. The proposal fails to differentiate between the risks of one and two family housing which can differ drastically from a three story townhouse with limited means of egress to a one story residence with multiple means of egress. While buyers of newly constructed homes now have a choice with respect to sprinkler protection, this proposal would remove any choice.

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1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not simply sprinkler those areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler systems installation costs. Perhaps the Committee should persevere the Prince George’s County, Maryland fire experience and promote a simple, inexpensive, solution of a few sprinklers in the high risk areas of the home?

2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device, and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system, thus, making the dwelling less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.

3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow these two respective cost benefit analysis of sprinklers.

PUHLICK: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot size separation distances, etc.

EXPLANATION OF ABSTENTION:

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the study for its faults, substantiating that sprinklers have not been developed. It claims benefit for fire fighter safety, which the fire loss data do not support. The opponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety than previously thought. Following that argument, it can be concluded that the benefits of sprinklers have not been developed.

The analysis was performed with certain assumptions about costs. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which result in greatly increased costs. These increases are not reflected in the analysis.

Given the benefits achievable with mandatory sprinklerling, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for.

Finally, the analysis which come to different conclusions, can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

COMMENT ON AFFIRMATIVE

BRIESE: In casting an affirmative vote for the provision of automatic sprinkler protection in one and two family dwellings, it is noted that the measure addresses future dwelling units.

Proponents of this measure have presented emotional testimony to support their position, however the proposed change to the Code will have minimal support their position will continue to occur well into the foreseeable future. Perhaps the Committee should persevere the Prince George’s County, Maryland fire experience and promote a simple, inexpensive, solution of a few sprinklers in the high risk areas of the home?

2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device, and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system, thus, making the dwelling less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.

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COMMENT ON AFFIRMATIVE

BRIESE: In casting an affirmative vote for the provision of automatic sprinkler protection in one and two family dwellings, it is noted that the measure addresses future dwelling units.

Proponents of this measure have presented emotional testimony to support their position, however the proposed change to the Code will have minimal impact on fire deaths and injuries for years to come. Sprinkler industry estimations, estimated in addressing current residential fire and life safety challenges as they have with perceived future problems.

Another of the criticisms was that the data submitted was contradictory. To that, we respond that the data is not contradictory. Many different studies were presented to show the wide range of data and information in existence. In each case, for the cost/benefit analysis, the NFSA chose the most conservative value for input.

For each of the decisions in this cost/benefit analysis, the NFSA has taken the most conservative (non-beneficial to sprinklers) in order to show that fire sprinklers can be cost effective, even if everything our opponents says about them is true. We know that many of these issues are much better and more favorable towards sprinklers but have attempted to utilize the most conservative approach possible. The following is a complete description of each of the items in the cost/benefit analysis:

YEAR – This analysis looks at the costs and benefits to fire sprinkler systems over a 50 year period. The assumptions that go into this analysis is that the homes (with the sprinkler system) are built and have to be put into service the first day of each year while the sprinkler systems are not put in service until the last day of the year. Therefore, in each year, all of the costs associated with the sprinkler system start with the first year they home is proposed, but the benefits don’t begin until the next year. In reality, sprinkler systems will be put in the same home before the end of the year and the benefits will begin before the end of the year, but this assumption is more conservative.

NUMBER OF SPRINKLERED HOMES – The assumption is that all of the 1.9 million homes built in the United States will be sprinklered. According to the National Association of Homebuilders, this is the typical number of homes built each year. While this number starts out as a relatively small percentage of total homes, after 50 years, the number of sprinklered homes grows to approximately 50%, a substantial number that will have a significant effect on future fire losses.

NUMBER OF HOMES – The total number of homes (one and two family dwellings) has been reported by the NAHB at 90 million prior to the start of this analysis. As 1.9 million new homes are built each year, the total number of homes grows at the same rate. The assumption in this analysis is that the new homes built are not replacements for existing homes.

NUMBER OF HOMES – All homes, either sprinklered or not, are modifiable (a ratio of the number of sprinklered homes to the total number of homes. The NFPA fire incident data has shown that the number of fires each year in one and two family dwellings has averaged 300,000 fires per year fairly consistently. The NFSA believes that the number of fires in sprinklered homes should be a direct proportion of the number of homes. The data showed that new homes are safer than older homes (a statement they have never been able to justify). Never-the-less, this analysis will agree with the NAHB position and state that fires are 50% less likely to occur in homes that are 10 years old or less.

NUMBER OF FIRES IN UNSPRINKLERED HOMES – Since fire sprinklers do not actually prevent the fire from occurring, the total number of fires still has to be added to 300,000. So, the total number of fires in sprinklered properties each year is equal to 300,000 minus the number of fires in sprinklered homes.

NUMBER OF LIVES SAVED – According to NFPA fire data, there is approximately 1 death for every 100 fires. The number of potential lives that would be lost in sprinklered buildings is then a straight ratio of the number of fires. The NFSA has never stated that fire sprinklers will save 100% of the people who are inside of a building when there is a fire. Estimates of sprinklers’ effectiveness have been estimated from 63% to 99% by different sources. The 63% effectiveness estimate (the lowest of any estimate) was made by NIST on a theoretical analysis (prior to the widespread installation of residential sprinklers) of the kind of deaths that occur in fires and the theoretical performance of what residents might be able to do, if sprinklers were installed. NIST now, with more than 20 years of experience, that the NIST study was extraordinarily conservative. For example, the NIST study states that no person that is intimate with ignition will ever be saved by a fire sprinkler. In reality, there have been a significant number of fires in sprinklered homes where people have been intimate with ignition and there has only been one reported situation where a person died (an older home sprinklered with standard response sprinklers). There are many people walking around today who were intimate with ignition and a fire sprinkler saved their life, in direct opposition to the NIST estimate. Even knowing that the NIST estimate is needlessly conservative, we have used 63% as an estimate of the number of people that would be able to escape under systems. Note that this analysis only looks at civilian deaths and does not take into account fire fighter fatalities.

NUMBER OF INJURIES PREVENTED – The NFPA estimates that there are 4.3 injuries per every 100 fires that occur in one and two family dwellings. The number of injuries that could happen in sprinklered buildings would be lost in sprinklered homes is then a straight ratio of the number of fires still has to add up to 300,000. So, the total number of fires in sprinklered properties each year is equal to 300,000 minus the number of fires in sprinklered homes.

TABLE OF LIVES SAVED – Accept in Principle 5000-218
of a human life. The first source has been statements from long life fires.
The second source is the Federal Government for sponsoring cancer research
(if the cost of the research per life saved is $2 million or less, the government
will fund the research). And the third source is the 9-11 commission that paid
families after the events of September 11, 2001. The commission awarded an
average of a little over $2 million for each life lost during that tragic day.

VALUE OF INJURIES – The most difficult variable to quantify in this
analysis has been the dollar value of an injury. First, in order to qualify
as an injury, the person has to have been hospitalized. With hospital costs
continuing to rise, this analysis uses hospitalization costs over 50 years
conservatively. The value of $30,000 per injury was taken from an OSHA
website as the average of the kind of injuries that occur in a fire. However,
burn injuries are extremely expensive as multiple surgeries for skin grafts are
frequently needed. It is quite possible that fire sprinklers can save many times
what this method attempted in this analysis.

VALUE OF PROPERTY SAVED – This value comes directly from fire
department reports and compares the average loss in a fire in an unsprinklered
building ($17,000) to the average loss in a fire in a sprinklered building
($1900). This average savings is applied to 90% of the fires that occur in
sprinklered buildings. This is a conservative estimate as fires that burn
contain a fire. This extra consideration for sprinklers not working is extremely
conservative because the fire data that generated the $1900 loss per fire
already takes into account sprinkler systems that did not work. Note that fire
departments only estimate the direct property loss (value of building and value
of items burned)

VALUE OF INDIRECT SAVINGS – As stated above, the property saved
only deals with the value of the building and the value of the items that burned.
What also needs to be taken into account is the value of the goods and services
that cannot be purchased if a person’s home is rebuilt after a fire. This is the
Red Cross provides temporary housing on a short term basis (which needs to be
paid for) then people may need to stay in alternative housing for a longer
period of time while their home is rebuilt. All kinds of other indirect losses
build up including longer commutes to work/school from alternate locations
and repayment of items exceeding the policy limits. The value of indirect losses
that can be saved by sprinklers is estimated as $5000 per fire and is only taken for 90% of the fires, again in recognition that in some
small percentage of fires sprinklers might not be so effective.

VALUE OF INSURANCE SAVINGS – The NFPA received some criticism of
the value used in the ROP in this column. Unlike the value used in the ROP, we have lowered the value used in this analysis to
$75 per home per year. Actual discounts for fire sprinkler systems vary by
insurance companies between 8% and 15%. If the average homeowner’s policy
is $750 per year and the average savings is 10%, the average savings of $75 per
year is extremely conservative, and most definitely less than the value
used in the ROP, the NFPA, and industry consensus.

VALUE OF CONSTRUCTION SAVINGS – The NFPA also received a
great deal of criticism for the value we estimated that builders could take
advantage of regarding construction savings. While it is true that there are
limited construction savings in the Life Safety Code, it is also true that there are
many opportunities for builders to take advantage of zoning and site
development incentives to reduce the total cost of building and increase their
profit while installing fire sprinklers. This analysis assumes that half of the
homes built each year will not be able to find any savings. The other half will
only save $500 per home. As we have lowered the value for the savings in materials
used in the ROP, we have lowered the value used in this analysis to
$25 per home per year. Actual discounts for fire sprinkler systems vary by
insurance companies between 8% and 15%. If the average homeowner’s policy
is $750 per year, the average savings is 10%, the average savings of $75 per
year is extremely conservative, and most definitely less than the value
used in the ROP, the NFPA, and industry consensus. Such incentives include the savings of the infrastructure including the downsizing of underground mains and the separation of fire hydrants.

VALUE OF FD ON SCENE – There are two types of savings available to
fire departments. There have been broken out as separate columns in this
analysis. This first category is the savings to the fire department when actually
on the scene of a fire. Where fires occur in sprinklered buildings, fewer fire
fighters are needed for a shorter duration. As such, fire fighters are freed up to
handle other tasks necessary of the fire department without having to employ
additional personnel. Also included in this category are the savings in materials
used to fight a fire such as fuel for fire trucks, which are left running during a
fire event, and water, which costs the utility money to clean and make available
at the hydrant. Fires in buildings with sprinkler systems use thousands of
gallons of water less than fires that occur in nonsprinklered property. The value
that we have used in this analysis of $10,000 per fire is extremely conservative
given the value of labor, the number of fire fighters necessary to fight house
fires and the value of materials like fuel and water.

VALUE OF FD PLANNING – The second of the fire department savings
comes from the ability to plan the development of fire stations. In communities
with new homes, new fire stations may be built. In older communities, new fire
stations may be modernized. The analysis assumes that there are
approximately 3000 fire departments in the United States and that 1% of these
departments will be able to save building a fire station each year. This saves $4
million in building and equipping the station each year as well as $75,000 for
each of 13 fire fighters that would need to be hired (4 fire fighters per engine
company with three shifts and one extra to cover for vacation and sick time)
and $25,000 each year for building maintenance. The costs for fire fighters and
maintenance continue each year for each new building. Once the building is 20
years old, additional costs are added for buying new equipment.

INCOME TAX SAVINGS – The increase to the cost of the building for the
fire sprinkler system is rolled into the cost of the mortgage. The interest on the
mortgage is tax deductible at the income tax rate of the individual paying the
mortgage. See the COST section of this analysis for the exact details of the
mortgage assumptions. The tax bracket in this analysis is 28%.

SAVINGS OF SPRINKLERS – The total of all of the savings columns for each
year

COST OF SPRINKLER SYSTEMS – The average home is 2500 sq ft
according to the NAHB. Sprinkler systems average less than $2.00 per sq ft,
but we will use $2.00 per sq ft in this analysis. But people don’t pay cash for
homes. Instead, the home is financed over a period of time. This analysis is
based on someone putting 10% of the cost of the system down and paying the
rest in 30 year period at the interest rate of 6%. In addition, this analysis
assumes that people don’t hang onto their homes for 30 years. Instead this
analysis assumes that after 15 years, the person has sold their home at a profit
and paid off the original mortgage. The new buyer does not pay specifically for
the sprinkler system in the existing house since it is rolled into the general
value of the property.

NET COST – The total cost of the sprinkler systems minus the savings
for each year.

CUMULATIVE NET COST – The net cost added from year to year to show
the total money spent on sprinkler systems is recouped by a community over a
time period of approximately 46 years.

See the table shown on the following page.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Proposal 5000-499.

COMMITTEE STATEMENT: The action on Comment 5000-499 should
meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 16 Negative: 5 Abstain: 1

BALLOT NOT RETURNED: 3

COMMITTEE ON EXEMPTION OF NOS

BELL: We concur with the Committee members ROP comments opposing
this proposal. Further, this proposal fails to comport with the Standards
Council’s recommendation to Committees to consider the cost/benefit of changes
to codes and standards. This proposal would come at a high unit cost and
would not be put into use, thought we thought it would have other improvements in utilities
like cooking appliances, interior finish, smoke alarms (multiple now required) and others
which mitigate the incidence of fires and/or their outcome. The proposal fails
to differentiate between the risks of one and two family housing which can
differ drastically from a three story townhouse with limited means of egress to
one story single family dwellings. While builders of newly
constructed homes now have a choice with respect to sprinkler protection, this
proposal would remove any choice.

BROWN: No proved cost-benefit over current fire-safety requirements.

KLUYVER. See my Explanation of Negative on Comment 5000-481

NICKSON: Many of the items considered in the cost effective justification
issues have to be addressed at the local level with decisions at the local level to
take design or trade-offs based on the installation of sprinklers.

NICKSON: This issue is one where local issues of site development, local
urbanization, upon development configuration, water supply availability, local credits available
such as water rate incentives, hydrant spacing, lot line separation distances, etc.

EXPLANATION OF ABSTENTION:
FRANCIS: The American Forest & Paper Association supports and advocates
the installation of fire sprinkler systems in new buildings to separate objectives and
irrefutably substantiates the cost/benefit to society. In the ROP, the proponents
developed an intriguing substantiation. However, there are benefits asserted
in the analysis for which no substantiation can be developed. For example, it
claims benefit for fire fighter safety, which the fire loss data do not support.
The opponents of the proposal have produced an equally intriguing analysis
which shows that the demographics and socioeconomic elements are far more
important in fire safety than previously thought. Following that argument, it
can be seen that the benefits of sprinklers only justify the system in specific
cases. And finally, the analysis was performed with certain assumptions about
costs of fire, with other improvements in utilities and with the assumed
requirements which result in greatly increased costs. These increases are not reflected in the
analysis.

Given the benefits achievable with mandatory sprinklerking, I would be
inclined to vote in the affirmative if these concerns were addressed. The
committee will need to address the two most important issues
I raised in my ROP Abstention: benefits with no data to support the claim and
excessive but hidden costs not accounted for.

Until the two respective cost/benefit analyses [which come to different
conclusions], can be harmonized, I must abstain. Two well-thought out studies
should be required by the NFPA to compel to avoid.

COMMENT ON AFFIRMATIVE:
BRIESE: In casting an affirmative vote for the provision of automatic sprinkler
protection in one and two family dwellings, it is noted that the measure
addresses future dwelling units.

Proponents of this measure have presented emotional testimony to support
their position, however the proposed change to the Code will have minimal

Report on Comments — Copyright, NFPA

NFPA 5000

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103,946
106,385
108,765
111,086
113,352
115,565
117,725
119,836
121,898
123,913
125,883
127,810
129,695
131,539
133,343
135,109
136,838
138,531

(Millions)

(Millions)

Sprinklers

Cost of

Net Cost

Net Cost

Cumulative

($Millions) ($Millions) ($Millions) ($Millions) ($Millions) ($Millions) ($Millions) ($Millions) ($Millions) ($Billions) ($Billions) ($Billions) ($Billions)
-1.0
-1.0
1.57
2.59
94.2
121
0
2375
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0
-1.7
-0.7
2.27
2.96
188.4
122
27.9
2375
142.5
14.0
46.8
1.8
39.1
-2.1
-0.3
2.97
3.32
282.6
123
54.7
2375
285
27.3
91.8
3.5
76.6
-2.1
-0.0
3.67
3.68
376.8
124
80.4
2375
427.5
40.2
134.9
5.1
112.6
-1.7
0.3
4.37
4.03
471
125
105.1
2375
570
52.6
176.4
6.6
147.2
-1.0
0.7
5.07
4.38
565.2
126
128.9
2375
712.5
64.4
216.3
8.1
180.5
0.0
1.1
5.77
4.72
659.4
127
151.8
2375
855
75.9
254.6
9.6
212.5
1.4
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6.47
5.06
753.6
128
173.8
2375
997.5
86.9
291.6
11.0
243.3
3.2
1.8
7.17
5.40
847.8
129
195.1
2375
1140
97.5
327.3
12.3
273.1
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7.87
5.73
942
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215.5
2375
1282.5
107.8
361.6
13.6
301.8
7.8
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1036.2
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258.9
2375
1425
129.4
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16.3
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9.27
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150.3
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19.0
420.9
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341.1
2375
1710
170.5
572.3
21.5
477.5
16.6
3.2
10.67
7.44
1318.8
134
380.2
2375
1852.5
190.1
637.8
24.0
532.2
20.2
3.6
11.37
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1318.8
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418.0
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209.0
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879.7
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Savings

Sprinklers

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Saved

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Spr Home

Homes

Homes

on scene

Value of FD Value of FD Income Tax Savings of

Value of

Value of

Value of

Value of

Value of

Value of

# Injuries

# of Lives

# of Fires

# of Fires

# of Total

# of Spr.

Cost/Beneﬁt Analysis of Sprinklers in One and Two Family Dwellings

Report on Comments — Copyright, NFPA
NFPA 5000

5000-220


impact on fire deaths and injuries for years to come. Sprinkler industry estimates show that less than 10 percent of dwelling units would be protected within 5 years of enactment; less then one-third within 20 years; and less then half within 40 years. Clearly, the fire scenarios presented by proponents to support their position would continue to occur well into the foreseeable future. It is hoped that proponents will display as fervent an interest in addressing current residential fire and life safety challenges as they have with perceived future problems.

5000-504 Log #523 BLD-RES

SUBMITTER: James Everett, Western Regional Fire Code Development Committee

COMMENT ON PROPOSAL NO: 5000-732

RECOMMENDATION: Reconsider the original proposal and accept.

SUBSTANTIATION: There has been ample technical justification submitted for this proposal. This proposal will start to reduce the true fire problem in America, home.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Proposal 5000-499.

COMMITTEE STATEMENT: The action on Comment 5000-499 should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 16 Negative: 5 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE:

BELL: We concur with the Committee members ROP comments opposing this proposal. Further, this proposal fails to comply with the Standards Council’s admonition to Committees to consider the cost/benefit of changes to codes and standards. This proposal would come at a high unit cost and would be present in housing that with other improvements in utilities, cooking appliances, interior finish, smoke alarms (multiple now required) and far more which mitigate the incidence of fires and/or their outcome. The proposal fails to differentiate between the risks of one and two family housing which can differ drastically from a three story townhouse with limited means of egress to a one story residence with multiple means of egress. While buyers of newly constructed homes now have a choice with respect to sprinkler protection, this proposal would remove any choice.

BROWN: No proved cost-benefit over current fire-safety requirements.

KLUEVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

PUHILL: This issue is best left to local jurisdictions based upon development configuration, water supply availability, local credits available such as water rate incentives, hydrant spacing, lot line separation distances, explanation etc.

EXPLANATION OF ABSTENTION:

FRANCIS: The American Forest & Paper Association supports and advocates the use of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the proposed ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefit for fire fighter safety, which the fire loss data do not support. The opponents of the proposal have produced an equally intriguing analysis which claims that the graphics and the voting taxpayers / consumers are more important in fire safety than previously thought. Following that argument, it can be seen that the benefits of sprinklers only justify the system in specific cases. And finally, the analysis was performed with certain assumptions about costs. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which will result in greatly increased costs. These increases are not reflected in the analysis.

Given the benefits achievable with mandatory sprinklerling, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with too data to support the claim and excessive but hidden costs not accounted for.

Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

COMMENT ON AFFIRMATIVE:

BRIESE: In casting an affirmative vote for the provision of automatic sprinkler protection in one and two family dwellings, it is noted that the measure addresses future dwelling units.

Proponents of this measure have presented emotional testimony to support their position, however the proposed change to the Code will have minimal impact on fire deaths and injuries for years to come. Sprinkler industry estimates show that less then 10 percent of dwelling units would be protected within 5 years of enactment; less then one-third within 20 years; and less then half within 40 years. Clearly, the fire scenarios presented by proponents to support their position will continue to occur well into the foreseeable future.

It is hoped that proponents will display as fervent an interest in addressing current residential fire and life safety challenges as they have with perceived future problems.

5000-505 Log #569 BLD-RES

SUBMITTER: Ignatius Kapalczynski, Connecticut Office of State Fire Marshal

COMMENT ON PROPOSAL NO: 5000-732

RECOMMENDATION: Reconsider.

SUBSTANTIATION: The arguments for sprinklers and against sprinklers in new one and two family dwellings result in rejection of the proposal once again. Only eight opposing opinions will silence the issue for another three year cycle.

1) Both sides of the argument agree that statistically, the majority of fire fatalities occur in one and two family dwellings and that children and the elderly are largely the victims.

2) The concept of sprinklers is effective in reducing fire losses and fatalities. By rejecting the proposal, the following adverse outcomes occur:

1) The committee fails to uphold the high standards and expectations of the NFPA.

2) The subject is silenced for three years.

3) The opportunity for communities to adopt sprinkler legislation is lost because the standard does not support it.

4) The opportunity for the debate to occur in the marketplace among consumers is lost.

5) Rather than being the leader in technology and safety, the committee and its minority become the sole participants in the debate.

The discussion of the merits of sprinkler protection in one and two family dwellings must be returned to the individual communities that adopt legislation and the power of choice must be offered to the consumer so that they can make their own decisions. For those communities that find their life losses from domestic fires acceptable, a means of documenting the exempt status must be provided.

As stated by Mr Puhlick, adults are capable of making their own decisions. Unfortunately, committee rejections of sprinkler proposals eliminate the potential of pilot legislation now so that communities with high fire fatalities can be provided to allow consumers to see the product that they are buying. If the committee were to approve this proposal, communities would gain the opportunity to provide their local marketplace with a small percentage of sprinkler protected homes. The consumers could exercise their right of choice with their wallets.

Proposal: All new one and two family dwellings shall be protected throughout by an automatic fire sprinkler system installed in accordance with 24.3.5.2. Communities shall be permitted omit sprinklers in new one and two family dwellings if they conduct, document and publish, a fire safety analysis which contains an evaluation of the community characteristics, losses, prevention and education programs and demonstrate that those programs and features offer a preferred level of fire protection. Such fire safety analysis shall be reevaluated by each new local administration and immediately following any fire fatalities in the community.

This proposal would raise the awareness of fire safety issues, cause a professional evaluation of fire safety to be conducted periodically, and permit the construction of pilot one and two family dwellings. The debate over fire safety would occur at the immediate local level between the powers in authority and the voting taxpayers / consumers.

When the issue dies in technical committee, it never reaches the end consumer. In “Field of Dreams” the motto was, “If you build it, they will come.” For sprinklers in new homes, it will be, “If you accept it, they will be installed.” A mere eight votes should not preserve the status quo for another three years when children and families are dying in homes fires every day.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Proposal 5000-499.

COMMITTEE STATEMENT: The action on Comment 5000-499 should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 15 Negative: 6 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE:

BELL: We concur with the Committee members ROP comments opposing this proposal. Further, this proposal fails to comply with the Standards Council’s admonition to Committees to consider the cost/benefit of changes to codes and standards. This proposal would come at a high unit cost and would be present in housing that with other improvements in utilities, cooking appliances, interior finish, smoke alarms (multiple now required) and others which mitigate the incidence of fires and/or their outcome. The proposal fails to differentiate between the risks of one and two family housing which can differ drastically from a three story townhouse with limited means of egress to a one story residence with multiple means of egress. While buyers of newly constructed homes now have a choice with respect to sprinkler protection, this proposal would remove any choice.

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COMMITTEE MEETING ACTION: Accept in Principle

See the action on Proposal 5000-499.

COMMITTEE STATEMENT: The action on Comment 5000-499 should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 16 Negative: 5 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE:

BELL: We concur with the Committee members ROP comments opposing this proposal. Further, this proposal fails to comply with the Standards Council’s admonition to Committees to consider the cost/benefit of changes to codes and standards. This proposal would come at a high unit cost and would be present in housing that with other improvements in utilities, cooking appliances, interior finish, smoke alarms (multiple now required) and others which mitigate the incidence of fires and/or their outcome. The proposal fails to differentiate between the risks of one and two family housing which can differ drastically from a three story townhouse with limited means of egress to a one story residence with multiple means of egress. While buyers of newly constructed homes now have a choice with respect to sprinkler protection, this proposal would remove any choice.
HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons: 1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not strongly support areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should peruse the Prince George’s County, Maryland fire experience and promote a simple, inexpensive solution, of a few sprinklers in the high risk areas of the home? 2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system. It may result in the dwelling being less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home. 3. As expressed by the Safety to Life Committee in previous advisory notes, local governments should be encouraged to promote the voluntary installation of residential sprinkler systems through incentives such as reducing property taxes.

KLUVER: See my Explanation of Negative on Comment 5000-481.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers. Puhlick: See my Explanation of Negative on Comment 5000-481.

FRANCIS: The American Forest & Paper Association supports and advocates the development of sprinkler systems whenever an objective analysis clearly and irrefutably substantiates the cost/benefit to society. In the ROP, the proponents developed an intriguing substantiation. However, there are benefits asserted in the analysis for which no substantiation can be developed. For example, it claims benefits for fire fighter safety, which the fire loss data do not support. The proponents of the proposal have produced an equally intriguing analysis which shows that the demographics and socioeconomic elements are far more important in fire safety than previously thought. Following that argument, it can be seen that the benefits of sprinklers only justify the system in specific cases. And finally, the analysis was performed with certain assumptions about costs. The 2002 editions of NFPA 13 and NFPA 13R have new requirements which result in greatly increased costs. These increases are not reflected in the analysis. Given the benefits achievable with mandatory sprinkling, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for.

Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

BRIESE: In casting an affirmative vote for the provision of automatic sprinkler protection in one and two family dwellings, it is noted that the measure addresses future dwelling units.

Proposals in this measure have presented emotional testimony to support their position, however the proposed change to the Code will have minimal impact on fire deaths and injuries for years to come. Sprinkler industry estimates show that less than 10 percent of dwelling units would be protected within 5 years of enactment; less then one-third within 20 years; and less than half within 40 years. Clearly, the fire scenarios presented by proponents to support their position will continue to occur well into the foreseeable future. It is hoped that proponents will display as fervent an interest in addressing current residential fire and life safety challenges as they have with perceived future problems.

BROWN: No proved cost-benefit over current fire-safety requirements. HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons: 1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not strongly support areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should peruse the Prince George’s County, Maryland fire experience and promote a simple, inexpensive solution, of a few sprinklers in the high risk areas of the home? 2. The full installation of single family dwelling sprinkler system will likely necessitate a larger water meter, a backflow device and costlier homeowners insurance for water damage coverage, in addition to the added cost of the sprinkler system. It may result in the dwelling being less affordable. For some people with limited finances, this may prevent them from purchasing a new home and to remain in an older dwelling. As such, they will find themselves at a higher risk in a less safe environment merely because they were priced out of a new home.

1- Both sides of the argument agree that statistically, the majority of fire fatalities occur in one and two family dwellings and that children and the elderly are largely the victims. BROWN: No proved cost-benefit over current fire-safety requirements. HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons: 1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not strongly support areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should peruse the Prince George’s County, Maryland fire experience and promote a simple, inexpensive solution, of a few sprinklers in the high risk areas of the home?

BROWNS: No proved cost-benefit over current fire-safety requirements. HAMMERMAN: I disagree with mandating sprinkler protection for new single family dwellings for the following reasons: 1. Historically, fires are likely to occur more often in the kitchen and dining areas. Therefore, why not strongly support areas with piping integrated with the domestic household system and not mandate sprinklers elsewhere? This would eliminate the added cost of larger meters, higher water bills, higher insurance costs and sprinkler system installation costs. Perhaps the Committee should peruse the Prince George’s County, Maryland fire experience and promote a simple, inexpensive solution, of a few sprinklers in the high risk areas of the home?
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Given the benefits achievable with mandatory sprinklerking, I would be inclined to vote in the affirmative if these concerns were addressed. The comments received in this cycle fail to address the two most important issues I raised in my ROP Abstention: benefits with no data to support the claim and excessive but hidden costs not accounted for.

Until the two respective cost/benefit analyses [which come to different conclusions], can be harmonized, I must abstain. Two well-thought out studies lead to different conclusions so I am compelled to abstain.

**COMMENT ON AFFIRMATIVE**

BRIESE: In casting an affirmative vote for the provision of automatic sprinkler protection in one and two family dwellings, it is noted that the measure addresses future dwelling units.

Proponents of this measure have presented emotional testimony to support their position, however the proposed change to the Code will have minimal impact on fire deaths and injuries for years to come. Sprinkler industry estimates show that less than 10 percent of dwelling units would be protected within 5 years of enactment; less then one-third within 20 years; and less then half within 40 years. Clearly, the fire scenarios presented by proponents to support their position will continue to occur well into the foreseeable future.

It is hoped that proponents will display as fervent an interest in addressing current and future fire and life safety challenges as they have with perceived future problems.

**COMMITTEE MEETING ACTION: Accept in Principle**

**RECOMMENDATION:** Reconsider the original proposal.

**SUBSTANTIATION:** Not all foundations are continuous. If you have pier-supported combustible floor construction, there is no means to require a fire resistance rated vertical assembly to continue to grade.

**COMMITTEE MEETING ACTION: Reject**

**COMMITTEE STATEMENT:** No new information has been submitted to substantiate the proposal. The committee stands on its previous statement for rejection of Proposal 5000-734.

**NUMBER ELIGIBLE TO VOTE:** 25

**BALLOT RESULTS:** Affirmative: 14 Abstain: 1

**BALLOT NOT RETURNED:** 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECIALEER

**EXPLANATION OF ABSTENTION:**

The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee scope, should be limited to location with respect to distances from walls, ceilings, and obstructions.” Per the Committee Scope of the Technical Correlating Committee on Signaling Systems for the Protection of Life and Property, NFPA 72 technical committees have jurisdiction over requirements on the “installation, performance, maintenance, testing and use” of fire warning equipment. As such, NFPA 72 technical committees are uniquely qualified and have the expertise and jurisdiction for all siting requirements that are integral to the successful performance of fire warning equipment. This can only be accomplished by including room-specific siting requirements within occupancies (i.e., where devices are to be located in such occupancies).

Reference is made to Annex A-9 of the Committee Officer’s Guide on Procedural Jurisdictional Scoping issues. These guidelines indicate that it is the occupancy committee’s responsibility to define the hazards common to those occupancies, and it is the installation committee’s responsibility to address the hazards identified by the occupancy committee. While the guidelines allow the occupancy committee to modify the requirements set by the installation committee to be modifications are to be implemented under the conditions set forth in the annex. The guidance in Annex A-9 requires that when changes are made, the rationale for the change be placed in the annex of the occupancy document. The Standards Council has recently considered the subject of potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and followed.

**COMMITTEE MEETING ACTION: Reject**

**COMMITTEE STATEMENT:** The committee notes a joint task group between it and the NFPA 72 technical committee is in the process of being established to coordinate requirements of the two documents and identify provisions that one should extract from the other. The committee intends to revisit this issue during the next code revision cycle, but maintain the requirements in NFPA 5000 for the 2006 edition.

**NUMBER ELIGIBLE TO VOTE:** 25

**BALLOT RESULTS:** Affirmative: 20 Abstain: 1

**BALLOT NOT RETURNED:** 3 BONISCH, CONVERY, ONEISOM

**EXPLANATION OF ABSTENTION:**

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

**TCC Action:** The Technical Correlating Committee (TCC) notes that the effect of this TC action results in the rejection of Proposal 5000-737.

**SUBMITTER:** Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

**COMMENT ON PROPOSAL NO:** 5000-737

**RECOMMENDATION:** Review the action and determine if any further changes are necessary between Chapters 22 and 49 and 50.

**SUBSTANTIATION:** See the above recommendation.

**COMMITTEE MEETING ACTION:** Accept in Principle

**COMMITTEE MEETING ACTION:** We believe this proposal should be rejected as the committee believes that this subject is more appropriately covered by a future building code action.

**NUMBER ELIGIBLE TO VOTE:** 20

**BALLOT RESULTS:** Affirmative: 14

**BALLOT NOT RETURNED:** 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECIALEER

**EXPLANATION OF ABSTENTION:** The Proposal 5000-544 explicitly stated that such equipment was not a substitute for required means of egress and that it would only be recognized as a second means of egress where permitted by an occupancy chapter (16 through 33). Such recognition has been provided by Assembly Occupancy Committee for equipment as a part of a second means of egress from a catwalk and similar equipment platform.

Additionally, based on a related comment submitted on proposal 5000-526, installation of an escape device, a coordinated group of devices or system that complies with 11.2.14.2 shall reduce the minimum stair width requirement in new construction to that of the 2003 LSC. One requirement of that allowance is that an occupancy chapter (16 through 35) permit the escape device/system to serve as a component in the means of egress. The two requirements harmonized in this comment will permit that stair width reduction for new construction.

The Safe Evacuation Coalition (SEvAC) is a newly formed group of manufacturers of escape devices and systems organized to support the development of criteria for the selection, installation and safe use of such equipment in both new and existing buildings. The current members include Escape Rescue Systems Ltd., Moseroth Ltd. (Spider Rescue System) and DoublExit Ltd.

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The comment is rejected based on the action taken by the TC on Means of Egress on Comment 5000-343.
COMMITTEE STATEMENT:

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-513 Log #139 BLD-RES  FINAL ACTION: Accept in Principle (25.2.2.2) SUBMITTER: Technical Correlating Committee on Building Code COMMENT ON PROPOSAL NO: 5000-756 RECOMMENDATION: Give consideration, so as to make any needed changes to its action so as to refer to “dwelling units of an apartment building” rather than “dwelling units of a residential occupancy” (in 8 places) for consistency with the format used in Proposals 5000-738 and 5000-743.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Revise text as follows:

25.1.2.2 No dwelling unit of a residential occupancy an apartment building shall have its sole means of egress pass through any nonresidential occupancy in the same building unless otherwise permitted by 25.1.2.2.1 or 25.1.2.2.2.

25.1.2.2.1 In buildings that are protected by an automatic sprinkler system in accordance with Section 55.3, dwelling units of a residential occupancy an apartment building shall be permitted to have their sole means of egress pass through a nonresidential occupancy in the same building where the following conditions are met:

(1) The dwelling unit of the residential occupancy apartment building shall comply with Chapter 25

(2) The sole means of egress from the dwelling unit of the residential occupancy apartment building shall not pass through a high hazard content area as defined in 6.3.2.4

(3) The sole means of egress from the dwelling unit of the residential occupancy apartment building shall not pass through a high hazard content area as defined in 6.3.2.4

COMMITTEE STATEMENT: The committee action accomplishes what is requested by the Technical Correlating Committee.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action eliminates the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-514 Log #503 BLD-RES  FINAL ACTION: Reject (25.2.2.11 (New)) SUBMITTER: David A. de Vries, Firetech Engineering / Rep. Safe Evacuation Coalition COMMENT ON PROPOSAL NO: 5000-758 RECOMMENDATION: Revise text as follows: 25.2.2.11 Escape Devices or Systems. Escape devices or systems complying with 11.2.14.2 shall be permitted.

SUBSTANTIATION: Currently there is a European Standard (EN341) that addresses one type of device, the controlled descent device, for use in rescue operations. At the time of the ROP meeting, the Standards Institution of Israel was in the process of developing standards for escape devices and systems and is now nearing completion. Since the ROP meeting ASTM is actively developing standards, and has formed a subcommittee of the E06 Committee on Building Performance to develop standards for three types of equipment; platform systems, chutes and controlled descent devices. ASTM is looking to NFPA for code-level guidance as to how and where such equipment will be used.

The Proposal 5000-544 explicitly stated that such equipment was not a substitute for required means of egress and that it would only be recognized as a second means of egress if permitted by an occupancy chapter (16 through 33). Such recognition has been provided by Assembly Occupancy
Committee for equipment as a part of a second means of egress from a catwalk and similar equipment platform. Additionally, based on a related comment submitted on proposal 5000-526, installation of an escape device, a coordinated group of devices or system that complies with 11.2.14.2 will reduce the minimum stair width requirement in new construction to that of the 2003 LSC. One requirement of that allowance is that an occupancy chapter (16 through 33) permit the escape device/system to serve as a component in the means of egress. The revised text indicated in this comment will permit that stair width reduction for new construction. The Safe Evacuation Coalition (SEvacC) is a newly formed group of manufacturers of escape devices and systems organized to support the development of criteria for the selection, installation and safe use of such equipment in both new and existing buildings. The current members include Escape Rescue Systems Ltd., Moseroth Ltd. (Spider Rescue System) and Doublesafe Ltd.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee is rejecting based on the action taken by the TC on Means of Egress on Comment 5000-343.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 20 Negative: 1 Abstain: 1

BALLOT NOT RETURNED: 2 BONISCH, CONVERY, ONEISOM

EXPLANATION OF VOTE:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee notes a joint task group between it and the NFPA 72 technical committee is in the process of being established to coordinate requirements of the two documents and identify provisions that one should extract from the other. The committee intends to revisit this issue during the next code revision cycle, but maintain the requirements in NFPA 5000 for the 2006 edition.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 20 Negative: 1 Abstain: 1

BALLOT NOT RETURNED: 2 BONISCH, CONVERY, ONEISOM

EXPLANATION OF VOTE:

PUHLICK: This issue is best left to the jurisdiction of NFPA 72 when required by NFPA 5000.

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC's must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-515 Log #252 BLD-RES

FINAL ACTION: Accept (25.3.4.3.2)

SUBMITTER: Technical Committee on Fundamentals of Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-762

RECOMMENDATION: Modify proposal as written with last sentence to read: “Annunciation shall be provided at a location readily accessible from the primary point of emergency response personnel”

SUBSTANTIATION: The revised language clearly states the objective of the location to be readily accessible to the emergency response personnel, and provides guidance in the code as opposed to simply deferring the decision to the AHJ. The AHJ always has the opportunity to modify the requirement, but as baseline, the code should identify the performance objective to achieve.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS: Affirmative: 21 Negative: 1

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF ABSTENTION:

BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-516 Log #244 BLD-RES

FINAL ACTION: Reject (25.3.4.5)

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-763

RECOMMENDATION: Accept Proposal 5000-763

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm systems disagrees with the Committee Statement “Siting locations, as referenced in the NFPA 72 committee scope, should be limited to location with respect to distances from walls, ceilings, and obstructions.” Per the Committee Scope of the Technical Correlating Committee on Signaling Systems for the Protection of Life and Property, NFPA 72 technical committees have jurisdiction over requirements on the “installation, performance, maintenance, testing and use” of fire warning equipment. As such, NFPA 72 technical committees are uniquely qualified to establish the expertise and jurisdiction for all siting requirements that are integral to the successful performance of fire warning equipment. This can only be accomplished by including room-specific siting requirements within occupancies (i.e., where devices are to be located in such occupancies).

Reference is made to Annex A-9 of the Committee Officer’s Guide on Potential Jurisdictional Scope Issues. These guidelines indicate that it is the occupancy committee’s responsibility to define the hazards common to those occupancies, and it is the installation committee’s responsibility to address the hazards identified by the occupancy committee. While the guidelines allow the occupancy committee to modify the requirements set by the installation committee, these modifications are to be implemented under the conditions set forth in the annex. The guidance in Annex A-9 requires that when changes are made, the rationale for the change be placed in the annex of the occupancy document. The Standards Council has recently considered the subject of potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.

Reference is also made to the Explanation of Negative by Austin on Proposal 5000-770.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee is maintaining the smoke alarm provisions in the Code for this edition, recognizing that a task group is being established between NFPA 72 and the Life Safety TC on Residential Occupancies to coordinate requirements between NFPA 72, NFPA 101, and NFPA 5000, and extract material where appropriate. The TC on Board and Care Facilities intends to request to participate on the task group as its smoke alarm requirements are similar, but not identical, to those for residential occupancies.

NUMBER ELIGIBLE TO VOTE: 13

BALLOT RESULTS: Affirmative: 12

BALLOT NOT RETURNED: 1 HOFFMAN

5000-518 Log #606 BLD-BCF

FINAL ACTION: Reject (26.2.3.5.6 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from “ACCEPT IN PRINCIPLE” to “REJECT-The comment relates to subjects and issues that are not appropriate for incorporation in a building code.”

SUBMITTER: Kenneth E. Isman, National Fire Sprinkler Association

COMMENT ON PROPOSAL NO: N/A

RECOMMENDATION: Insert a new section 26.2.3.5.6 or inspection, testing and maintenance of systems installed in accordance with NFPA 13D as well as an explanation in the annex as follows:

...
Section 12.3.2 of NFPA 25. The procedure shall be from NFPA 25.

Revise the submitter’s recommendation as follows:

12.2.8.1 of NFPA 25.

COMMITTEE MEETING ACTION: Accept in Principle

David Kiely and Warren Bonisch for the purposes of facilitating committee participation.

The committee added these provisions to NFPA 5000 to correlate with NFPA 13D and NFPA 25. The new annex material is consistent with NFPA 72, National Fire Alarm Code®. The new annex material is editorial and should meet the submitter’s intent. The committee notes it intends to clarify its submission to NFPA 5000.

An annunciator panel connected to the fire alarm system shall be provided at a location readily accessible from the primary point of entry for emergency response personnel.

The revised language clearly states the objective of the location is to be readily accessible to the emergency response personnel, and provides guidance in the code as opposed to simply deferring the decision to the AHJ. The AHJ always has the opportunity to modify the requirement, but as baseline the code should identify the performance objective to achieve.

COMMITTEE MEETING ACTION: Accept in Principle

The committee meeting action intends to clarify its intent.

SUBMISSION: Technical Committee on Fundamentals of Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-773

RECOMMENDATION: Modify proposal as written to include:

An annunciator panel connected to the fire alarm system shall be provided at a location readily accessible from the primary point of entry for emergency response personnel.

SUBMISSION: The revised language clearly states the objective of the location is to be readily accessible to the emergency response personnel, and provides guidance in the code as opposed to simply deferring the decision to the AHJ. The AHJ always has the opportunity to modify the requirement, but as baseline the code should identify the performance objective to achieve.

COMMITTEE MEETING ACTION: Accept in Principle

Revise the submitter’s recommendation as follows:

An annunciator panel connected to the fire alarm system shall be provided at a location readily accessible from the primary point of entry for emergency response personnel.

COMMITTEE STATEMENT: The committee action intends to clarify its intent.

NUMBER ELIGIBLE TO VOTE: 13

BALLOT RESULTS: Affirmative: 12

BALLOT NOT RETURNED: J. Jeffrey Moore, Hughes Associates, Inc.
contained in the committee action is not a proper discussion on positive alarm sequence.

The correct sequence is for the system to have a notification at a constantly attended location, provide an initial acknowledgment phase of a maximum of 15 seconds prior to the alarm investigation committee, and then for an investigation not to exceed 180 seconds. There is not activation of general notification appliances or emergency forces notification until the system goes into full alarm. If there is a second activation of the system during the 180-second investigation, or if the system is not reset during this time period, the system goes into an alarm state - effecting both occupant notification and emergency forces notification. Refer to NFPA 72-2002 Section 6.8.1.3.

The subject of Section 26.3.3.4.6 is emergency forces notification. This notification will not occur until positive alarm sequence or alarm verification (where used) is complete. If positive alarm sequence is specified, location in another section would be more appropriate, and the timing for this sequence should be consistent with that addressed in NFPA 72. (The proposed language does not reflect this two-phase sequence terminology and will cause confusion in implementation.) Note that Section 55.2.3.4.3 addresses positive alarm sequence under occupant notification. The acknowledgment period of 180-second delay, as provided in Proposal 5000-773, is reasonable. Occupant notification needs to occur immediately.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: A 180-second emergency forces notification delay is excessive for an occupancy where the population might be incapable of self-preservation. A 120-second delay, as provided in Proposal 5000-773, is reasonable. Occupant notification needs to occur immediately.

BALLOT RESULTS: Affirmative: 11 Negative: 1
BALLOT NOT RETURNED: 1 HOFFMAN

EXPLANATION OF NEGATIVE:
AUSTIN: Committee action to “Reject” makes it in conflict with NFPA 72. Committee action should be either to “Accept” or add Annex material to explain the need to deviate from NFPA 72 for this chapter.

COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-526.

SUBSTANTIATION: We concur with the action taken by the Technical Committee to retain the current minimum exit stair width criteria.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems.

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems dissages with the Committee Statement  “Siting locations, as referenced in the NFPA 72 committee scope, should be limited to location with respect to distances from walls, ceilings, and obstructions.” Per the Committee Scope of the Technical Correlating Committee on Signaling Systems for the Protection of Life and Property, NFPA 72 technical committees have jurisdiction over requirements on the “installation, performance, maintenance, testing and use” of fire warning equipment. As such, the NFPA 72 technical committees are uniquely qualified and have the expertise and jurisdiction for all siting requirements that are integral to the successful performance of fire warning equipment. This can only be accomplished by including room-specific siting requirements within occupancies where devices are to be located (i.e., where used).

Reference is made to Annex A-9 of the Committee Officer’s Guide on Potential Jurisdictional Scope Issues. These guidelines indicate that it is the occupancy committee’s responsibility to define the hazards common to those occupancies, and it is the installation committee’s responsibility to address the hazards as identified by the occupancy committee. While the guidelines allow the occupancy committee to modify the requirements set by the installation committee, these modifications are to be implemented under the conditions set forth in the annex. The guidance in Annex A-9 requires that when changes are made, the rationale for the change be placed in the annex of the occupancy document. The Technical Correlating Committee has recently discussed the subject of potential jurisdictional scope issues and has stated that the guidance provided by Annex A-9 is appropriate and should be followed.

Reference is also made to the Explanation of Negative by Austin on Proposal 5000-774.

With regard to the differences in siting requirements between NFPA 5000, 26.3.3.4.7 and NFPA 72, 11.5.10.1 noted in the Committee Statement, requirements are being developed for the next edition of NFPA 72.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The committee is maintaining the smoke alarm requirements in the Code for this edition, recognizing that a task group is being established between NFPA 72 and the Life Safety TC on Residential Occupancies to coordinate requirements between NFPA 72, NFPA 101, and NFPA 5000, and extract material where appropriate. The TC on Board and Care Facilities intends to request to participate on the task group as its smoke alarm requirements are similar, but not identical, to those for residential occupancies.

SUBSTANTIATION: The Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems.

SUBMITTER: The original submission provides sufficient technical justification for this change. The actual Committee Statement issued as a part of this Rejection affirms that the Committee recognizes that this proposal offers a partial solution to the existing concerns with high rise buildings. The design of wider stairs to serve larger building populations, and, in turn larger and taller buildings, would provide a benefit for occupant evacuation and to emergency responders attempting to enter the building alike. For the limited application of conditions where larger stairs would be required, the benefits for the construction of these stairs now warrant their requirement in the model codes.

It should also be noted that further action by other Occupancy Technical Committees, which were scheduled after this meeting, have adequately addressed the concerns regarding the application of the proposed provisions for
the 36-inch minimum width stair, and regarding the presence of horizontal exits and ground floor exits on upper floors. I do still support the formation of a Task Group to further study and refine these issues. However, I also support the adoption of this proposal as a sound beginning to address the unique hazards of evacuating large numbers of building occupants and the mode of entry for emergency responders.

GAUVIN: NEMA commends the exemplary effort by the submitter to provide a very detailed substantiation and supports the SAF-MER TC suggestion to the TCC, that recommends a task group to investigate a more holistic approach to resolving the perceived safety and egress concerns in high rise buildings. We also feel additional consideration should be given to the comments from Mr. Bush regarding action taken by other Technical Committees.

EXPLANATION OF NEGATIVE:

BUSH: The original submission provides sufficient technical justification for this change. The actual Committee Statement issued as a part of this Rejection affirms that the Committee recognizes that this proposal offers a partial solution to the existing concerns with high rise buildings. The design of wider stairs to serve larger building populations, and, in turn larger and taller buildings, would provide a benefit for occupant evacuation and to emergency responders attempting to enter the building alike. For the limited application of conditions where larger stairs would be required, the benefits for the construction of these stairs now warrant their requirement in the model codes.

It should also be noted that further action by other Occupancy Technical Committees, which were scheduled after this meeting, have adequately addressed the concerns regarding the application of the proposed provisions for the 36-inch minimum width stair, and regarding the presence of horizontal exits and ground floor exits on upper floors. I do still support the formation of a Task Group to further study and refine these issues. However, I also support the adoption of this proposal as a sound beginning to address the unique hazards of evacuating large numbers of building occupants and the mode of entry for emergency responders.

GAUVIN: NEMA commends the exemplary effort by the submitter to provide a very detailed substantiation and supports the SAF-MER TC suggestion to the TCC, that recommends a task group to investigate a more holistic approach to resolving the perceived safety and egress concerns in high rise buildings. We also feel additional consideration should be given to the comments from Mr. Bush regarding action taken by other Technical Committees.
The clearest way of handling horizontal exits, in relation to the minimum width issue addressed here, is simply to ignore them. This is because, in case of total evacuation of the building, the benefit of horizontal exits is relatively localized and thus moot; the performance of the exit stairs will largely determine the speed and duration of the evacuation. In other words, there should be neither a credit nor a penalty for use of horizontal exits as far as total building evacuation is concerned.

Demographics and Total Evacuation of Buildings

Here we should turn to the significant issue raised by GSA's representative, Mr. Frable, in his negative ballot comment on 5000-526, where he stated, "it appears the proponent has not taken into consideration when determining these arbitrary thresholds that 40% of the population in North America is seriously overweight."

In my comment to the Means of Egress TC on 5000-526, I suggest a broadened scope of the occupancy code's extravector width requirements on the changed—and changing—demographics of building occupants in two respects. First relative to the research studies described by the proponent of proposal 5000-526, these were performed decades ago at a time and in mostly in a country (Canada) when and where people were both thinner and more physically fit than are typical US residents today. Being overweight or obese has become a national health problem in the US among adults and children—the very people who will occupy, and might need to evacuate, buildings for decades to come. Irrefutable evidence for this is in the statistics of adolescents in the past 2 decades. The increases in overweight and obesity cut across all ages, racial and ethnic groups, and both genders. Notably, most of the Canadian office building evacuation studies—a major input for current US means of egress formulations—on which Mr. Fixen, in relation to the Means of Egress TC acceptance of my proposal 5000-526—was appended to this comment. The first paragraph of that negative ballot comment should be read in conjunction with this comment. The first paragraph of that negative ballot comment was of a more generous width generally than is the case in office buildings so that wider stairs—preferably to a width of 44 in. (112 cm), maximum—would be needed.

1.154x, 0.923x and 0.923x.

The increases in overweight and obesity cut across all ages, racial and ethnic groups, and both genders. Notably, most of the Canadian office building evacuation studies—a major input for current US means of egress formulations—on which Mr. Fixen, in relation to the Means of Egress TC acceptance of my proposal 5000-526—was appended to this comment. The first paragraph of that negative ballot comment should be read in conjunction with this comment. The first paragraph of that negative ballot comment was of a more generous width generally than is the case in office buildings so that wider stairs—preferably to a width of 44 in. (112 cm), maximum—would be needed.

The increases in overweight and obesity cut across all ages, racial and ethnic groups, and both genders. Notably, most of the Canadian office building evacuation studies—a major input for current US means of egress formulations—on which Mr. Fixen, in relation to the Means of Egress TC acceptance of my proposal 5000-526—was appended to this comment. The first paragraph of that negative ballot comment should be read in conjunction with this comment. The first paragraph of that negative ballot comment was of a more generous width generally than is the case in office buildings so that wider stairs—preferably to a width of 44 in. (112 cm), maximum—would be needed.
In addition to people getting larger, they are becoming so because of reduced fitness generally. This affects people’s ability to cope with the physical demands of evacuation on stairs. One indication of this trend is the estimate of how many people would (or did) have difficulty evacuating down multiple stories of stairs in evacuation of office buildings. Pauls’ estimate of 3 percent of typical Canadian office workers, at about 1970, not being good candidates for using stairs for evacuation with a crowd of other descending persons, can be compared with more-recent US estimates around twice as large. Appendix O of the preliminary report issued by NIST in June 2004, on the World Trade Center evacuation, mentioned the following finding: “Some 6 percent (sic) of those estimated in both US and UK studies so far of the WTC evacuation (as described, for example, in Proceedings of the 3rd International Symposium on Human Behaviour in Fires, 1994).” Generally, there are multiple indications that people are not able to evacuate as quickly and efficiently as assumed in drawing up the current means of egress standards.

Finally, we have an aging population generally. Increasingly, people are going to have to work longer than has been the case. Thus we must begin now to design for an older population generally. This means providing more-generous, easier-to-use egress facilities. Of course, this factor is an even larger one for those buildings with stairs. People are living longer. We should not be basing stairway design on demographics of the past.

All of the above factors point to wider minimum width for egress stairways. Note that there has been a separate comment submitted to the Means of Egress TC addressing a possible need to address the minimum width of exit discharge doorways (or additional doorways) from the wider stairways resulting from proposal 5000-526.

Appendix 1. Comments from Jake Pauls on the Negative Ballot Comments of, respectively, Edward Fixen (Schirmer Engineering Corporation) and Mr. Frable (GSA) as included in Pauls’ Technical Correlating Committee negative ballot on 5000-781.

Pauls’ responses are shown in bold italics font below, interspersed with the Negative Ballot Comments, first from Mr. Fixen and then from Mr. Frable. Fixen

Next, while the technical substantiation merits consideration, it appears that the fundamental driver for this substantiation is the complete and uncontrollable evacuation of very tall buildings, as opposed to staged evacuation currently contemplated by Code. It is premature to make changes that are not anchored in corresponding fundamental changes in the Code such as complete evacuation of very tall buildings. Any knowledge there is no committee consensus on fundamentally changing the underlying evacuation philosophy of tall buildings from staged to complete. This is not a fundamental change as the NFPA codes—and all other model codes—have always regulated minimum stair widths. The changes proposed simply improve the alignment of the minimum width requirements to longstanding assumptions about a certain stair widths facilitating certain kinds of crowd movement, both unidirectionally and with counterflow. The 44-inch nominal stair width was based on a mistaken assumption that two people could use a single stair (in a shoulder-to-shoulder fashion). This long enshrined in the concept of 22-inch units of exit width that NFPA and other code groups began rejecting in the 1980s. See the substantiation provided with the proposal for full background on this matter.

Regarding Mr. Fixen’s contention that there is no committee consensus, the Means of Egress Committee (and the Correlating Committee at 5000-526) reported that there were not procedural complications as happened last cycle with the comment on NFPA 101), supported by NFPA members, in favor of realigning the minimum width to take account of the traditional misconception about the 44-inch stair width and this addresses both staged and complete evacuations recognizing that both occur in real events—fires, bombs and bomb scares—in large buildings.

Mr. Fixen would have a very difficult job selling a code to professionals and the public today if he argued that the codes were solely based on a staged evacuation concept to the exclusion of other evacuation scenarios. What does it mean to say a code generally is to cater to the general population? A building in an implicitly-expected mode of evacuation of larger portions or the total building in a longer time. See my full justification, with the proposal, on the benefit of improved egress flow—and hence evacuation time—performance due to the fact that, because of the increased egress flow, the evacuation of the building is treated as a significant service benefit beyond enhancing two-abreast move and counterflow. Although my proposal justification refers to “a fundamental re-examination of minimum egress stair width criteria,” it is not a fundamental re-examination of egress generally and it is merely one of the simplest ergonomic aspects of the egress issue—minimum stair width. Perhaps my proposal clouded matters slightly by permitting a few population-based, wider steps between the traditional 44-inch nominal width and the widely recommended nominal width of about 55 inches, specified more clearly as 48 inches clear between handrails. However, I clearly stated that I would consider—with the scope of my proposal—a code revision applying the wider minimum width (of 48 inches clear between handrails) even more generally, for example, such as the Fire Safety Directors Association of Greater New York have advocated for all high-rise buildings.

Frable

Neg: At the December meeting the Technical Committee voted to accept the subject proposal. However, it is my opinion that the proponent has not provided sufficient technical substantiation to justify the new proposed occupant load threshold triggers for the proposed new stairway width clearances between handrails. Hence this proposal would not coincide with other quality documents published by NFPA that are based on sound technical substantiation.

It is remarkable that Mr. Frable can characterize a substantiation of over 2,700 words, plus a few figures and four citations to peer-reviewed literature as not being “sound technical documentation” especially as the vast majority of accepted proposals for NFPA documents are not equally justified with technical substantiation but are based on sound judgment by technical committees. I would ask Mr. Frable to counter the proponent’s substantiation? His “opinion” and nothing more. Surely, if the justification were incorrect, a huge organization like the U.S. General Services Administration and a highly-placed GSA fire safety official like Mr. Frable could refute it in similar detail or, at a minimum, would fund support a similarly intensive program of research into evacuation and crowd movement generally such as was described in the proposal justification.

The proponent also has not provided any substantiation how these new threshold “triggers” will improve the overall building safety. The threshold “triggers” I am referring to are as follows:

Total Occupant Load Served

<table>
<thead>
<tr>
<th>Stairway width by the Stairway</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 to 999</td>
</tr>
<tr>
<td>1000 to 1999</td>
</tr>
<tr>
<td>2000 and more</td>
</tr>
</tbody>
</table>

There was substantial discussion in the proposal on the code-related bases for the “triggers.” This dealt with how the code has addressed “Smoke-Protected Assembly Seating.” Admittedly all scooping requirements are based, ultimately, on judgment calls by committees and all the other participants in the code-making process—especially NFPA—as nobody has any idea of the impact of this with some codes.

However, in terms of improvements to certain aspects of safety, the proposal justification did note various benefits of the wider stairways. Generally, in terms of evacuation efficiency alone, with each step in the width table, the larger-population stairways function more efficiently—than current code design rules give due to the “effective-width” phenomenon as discussed at length in referenced chapter of the SFPE Handbook of Fire Protection Engineering. The relative egress flow performance of the four widths in the reproduced table is: 1.00, 1.17, 1.33 and 1.50. Surely, with larger populations needing to use stairs for egress, there should be some greater conservatism in their performance such as accomplished with the scooping proposed in the reproduced table.

Currently, the 2003 Life Safety Code requires that new stairs (where the occupant load is 50 or greater) to have a nominal 44-inch wide stair with a 35 inch clear width between handrails (takes into consideration projections not more than 4 1/2 inches at or below handrail height). [Please note that in the 2000 edition of the Life Safety Code new stairs were required (where the occupant load is 50 or greater) to have a nominal 44 – inch wide stair with a 37 inch clear width between handrails (takes into consideration projections not more than 1 1/2 inches high at or below handrail height).

I do concur with the proponent’s evacuation data that adult’s rarely decent (sic) side by side in a nominal 44-inch wide stair (i.e., 35 inch clear width between handrails). However, the data also suggests that the stairs would need to be substantially wider than proposed. Also, it appears the proponent has not taken into consideration when determining these arbitrary thresholds that 40% of the population in North America is seriously overweight.

Is Mr. Frable arguing here that my proposal did not go far enough? Would GSA fund and support research into the changing demographics of U.S. government workers, for example, and the impact on egress capacity rules and evacuation performance of the possibility of “seriously overweight” persons to even more significant distances in an evacuation? Generally, my proposal offered scope to the Technical Committee to make the wider minimum stair width apply even more generally. Will Mr. Frable now support one of the two more-conservative options on the subject proposal? Note also that the Canadian research (admittedly from a few decades ago from a more-fit nation than the USA) established that maximum widths between handrails should be reduced from the traditionally permitted 66 or 88 inches to 60 inches so that everyone on the stairway in a crowd condition could reach the bottom safely and quickly. Is Mr. Frable now prepared to technically document—that the most effective stairway widths are in an even smaller range than the 12 inches between 48 and 60 inches?

The proponent also has hypothesized that this proposal would address counter-flow issues of evacuees and emergency responders. I do agree in concept with the proponent that we need to look closer at this issue, however, whether or not it’s 40 inches, 44 inches, 48 inches or some other value is a different
sufficient width to accommodate the expected stairway capacity needs to be determined quantitatively. I believe that choosing these arbitrary threshold triggers is still too premature prior to a final report being issued on the World Trade Center. More additional work is required to develop such methods and to revise minimum Code requirements such that an integrated systematic approach to fire protection and egress movement is the norm.

Mr. Frable’s reference to a “final report on the World Trade Center” has been seen before but there is—not—to my knowledge as a close observer of the post-911 research—going to be any “final report” in the near future and I really can’t imagine how anyone involved with code and standard writers would see this report, let alone see a “final report on the World Trade Center.” The journalistic, research and litigation investigations will go on for decades. As noted in the proposal, from what is known about the studies being performed now, there is not the kind of ergonomic detail forthcoming that is comparable to the studies of Fruin, Auchter, and others dealing solely with dynamic stairways. Again, if GSA is really concerned about this, it could do a lot more than it is doing right now to actually fund additional studies that should not be restricted to learning what happened in the World Trade Center. The studies controlled by NEST—under the extraordinary, temporary (and inadequate) funding for the World Trade Center—will, in any event, be available in the fall of 2004, thus giving Mr. Frable and others ample opportunity to challenge the acceptance of this proposal on wider minimum stairway widths at the May 2005 meeting of the NFPA and the subsequent Standards Council appeal process in July of 2005.

Last week’s comments have not provided any answers to the fundamental questions below that I believe the Technical Committee needs answers to prior to accepting this proposal:

• What will be the sociological, economical, and political impact of widening exit stairway dimensions?

First, the dimensions are not arbitrary! Read the substantiation again. Regarding “sociological, economical, and political impact,” does GSA have the base information about such impacts from current minimum stair width requirements that would be compared with the suggested new information? Also, what is needed to fund such research? And how does GSA today also in what the “sociological, economical, and political impact,” would be if the actual 9-11 population of the World Trade Center had been significantly higher—as would have been the case had the 9-11 attacks occurred somewhat later that day—than the relatively small population of about 7,000 persons per tower? Imagine several thousand people trying to utilize the two conventionally narrow, 44-inch nominal width exit stairs (provided along with a third 55-inch nominal width stair) while having to stop or drastically slow down because of the counterflow from first responders? Imagine a death toll a few times higher than the 2,749 death toll from the WTC attacks. That higher death toll attributed, in significant part, directly to inadequate exit. GSA representative, please explain to members of the skyscraper Safety Campaign or any of the other post-9-11 family groups why you suggest that a “sociological, economical, and political impact” study now be required of the wider stair width requirement.

Regarding economic impact, this was dealt with in the prior cycle’s comments and NFPA Standards Council appeal process when GSA challenged the NFPA committee and membership acceptance of a requirement for wider exit stairway width. The economic impact (or area increase) by the provision challenged is insignificant. If those not seeing those comments a year ago, it was noted (by Pauls) that: “For example, a 20-story building [with a 29,400 sq ft floor area per story] would have the wider, 56-inch nominal-width stairs (with 48 inches between handrails) only on the lowest 6 stories and the impact on the building area would be the equivalent of about 400 sq ft per story of total (area + space) floor area of about 600,000 sq ft subject to the occupant load calculation. (This calculation is based on minimum floor-to-floor heights of 9 feet; more-typical, 10-ft floor-to-floor heights would have an area impact of about 0.08 percent with the wider stairs.) However, this calculation assumes that the building size remains unchanged for the six lowest floors. In actuality the wider stairs for the six lowest above-grade floors permit an additional 80 persons occupant load on each of these lower floors. Thus, the permissible floor area of each of these lower floors could be increased by 8,040 sq ft to 10,040 sq ft subject to the occupant load calculation. Thus the adjusted percentage impact of the wider stairs on total building area is only about 0.06 percent.”

• Will widening new exit stairs to these arbitrary dimensions improve safety significantly?

Characterizing new exit stair dimensions as “arbitrary” does not make it so! See comments above regarding significant benefits to stairway usability and thus safety.

• By accepting this proposal, will this lead to a “false” perception of improved safety by the occupants of a building?

With what technical justification does GSA refer to “false” perception? From what I already know of people’s perceptions of the narrow stair width provided with two of the three World Trade Center exits (as well as other typical, 44-inch nominal width stairs) they do perceive them as narrower and inadequate. The John Labriola photographs taken in one of the narrower WTC exit stairs on 9-11 clearly depict what ordinary people can readily perceive; people had to stop and twist to the side to let the firefighter pass. (The photographs are available in John Labriola’s book, Walking Forward, Looking Back, Hyper Publishing, 2003.) What basis does GSA have for even suggesting that people’s perception of improved safety with the wider stairs is “false?”

• Is this proposal only a “band-aid” that ignores the larger issue of the building evacuation philosophy?

Band-aids do a useful job even if applied temporarily. Wider stairs are much more effective as they serve permanently and they improve building evacuation regardless of the evacuation philosophy employed. The proposal does not ignore the larger issue; I believe it clearly pointed out the difference between the relatively simple aspects of design for evacuation—based on traditional expectations of performance with two-unit stairs. Again, what has GSA done and what is it prepared to do to support and fund research on “the larger issue of building evacuation philosophy?”

• In lieu of requiring wider stairs, would additional protection of the stairs or requiring additional stairs be more effective in the overall goal?

The proposal-specific benefits of the wider stairs are not achieved with “additional protection of the stairs” or simply providing more of them (unless organizations like GSA are prepared to install stairways that are explicitly not intended for evacuation and are for use by first responders only). However, if the overall goal—and the means to reliably achieve it—are to not have any evacuation of a building, then the benefits of wider stairs would be unneeded. Does GSA have the confidence in “additional protection,” for example, to go this route? More important, do the occupants of GSA’s buildings share this confidence?

• In lieu of requiring wider stairs, should the expected evacuation capabilities be revised and the associated time required to egress a building?

Yes! See all the reasons stated above.

Based on the above concerns, the appropriate action on this comment should have been “Reject”.

No! The concerns expressed by the two negative balloters, Fixen and Frable, clearly do not justify rejection of the proposal.


Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: While the committee agrees that perceived safety and egress concerns associated with high rise buildings exist, this committee is not convinced that the proposed provisions adequately address the relevant issues and believes that the proposed revisions only offer a potential partial intermediate step that will require revision in the future. The committee believes a more holistic approach is required and that other safety measures and a combination of other safeguards with the wider stairs have not been sufficiently studied. In addition, the committee notes that a gap exists in the application of the proposed provisions for the 36-inch minimum width. The defend in place concept, i.e. use of horizontal exits, which is allowed by current requirements has not been properly considered in the application of the wider stair provisions, nor has the impact of ground floor exits on upper floors been thoroughly considered. Members of the committee expressed willingness in serving on a task group to further study the issues and develop proposed language such if such a task group is appointed by the Technical Correlating Committee. In acting on this comment the committee also took into consideration the actions in the ballot on comment 5000-523.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 13 Negative: 2
BALLOT NOT RETURNED: 6 BOCR, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE: BUSH: The original submission provides sufficient technical justification for this change. The actual Committee Statement issued as a part of this Rejection affirms that the Committee recognizes that this proposal offers a partial solution to the existing concerns with high rise buildings. The design of wider stairs to serve larger building populations, and, in turn larger and taller buildings, would provide a benefit for occupant evacuation and to emergency responders attempting to enter the building alike. For the limited application of conditions where larger stairs would be required, the benefits for the construction of these stairs warrant their requirement in the model codes. It also should be noted that further action by other Occupancy Technical Committees, which were scheduled after this meeting, have adequately addressed the concerns regarding the application of the proposed provisions for the 36-inch minimum width stair, and regarding the presence of horizontal exits and wider floor exits on upper floors. I do still support the recommendation to form a Task Group to further study and refine these issues. However, I also support the adoption of this proposal as a sound beginning to address the unique hazards of evacuating large numbers of building occupants and the mode of entry for emergency responders.

GAULVIN: NEMA endorses the exemplary effort by the submitter to provide a very detailed substantiation and supports the SAF-MER TC suggestion to the TCC, that recommends a task group to investigate a more holistic approach to resolving the perceived safety and egress concerns in high rise buildings. We also feel additional consideration should be given to comments from Mr. Bush regarding action taken by other Technical Committees.
5000-527 Log #141 BLD-MER  FINAL ACTION: Accept in Principle (27.4.1(1))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-783

RECOMMENDATION: Give consideration, so as to make any needed changes, to correlating this provision with its counterpart in NFPA 101 (as appearing in the errata to the first printing of NFPA 101-2003, and as shown in the second printing). The corrected paragraph has 3 subparts and retains the concept from earlier editions of NFPA 101 that not only is access required to two exits, but both of the required exits must be ON the floor (that is, unenclosed exit access stairs cannot be used to satisfy the minimum number of means of egress for floors required to have 2 means of egress).

COMMITTEE STATEMENT: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement on Comment 5000-530.

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-530.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement on Comment 5000-530.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 13 Negative: 2

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE: GAUVIN: NEMA agrees in part with the comments from Mr. Humble. However we see this change not as redundant but as conflicting and confusing. It is not clear what the actual requirement is – to comply with the entire section of Section 10.6 (per 27.3.3.3.1) or only to comply with the requirements of 10.6.1 or 10.6.2 (per 27.3.3.3.3)?

HUMBLE: It remains unclear the necessity to adopt provisions for the sake of consistency when in this case the provisions are duplicative within the proposal itself. In this case 27.3.3.3.1 states that compliance must be made with Section 10.6. Duplicating that provision is the other part of the proposal to add Section 10.6.1 that states the floor finish must comply with 10.6.1 and 10.6.2, but that has been done since that is required in 27.3.3.3.1 which references Section 10.6 in its entirety. In regard to the phrase “as applicable”, this emphasis currently applies to the entire document anyway. I would respectfully submit that the proposal requires the incorporation of 27.3.3.3.1 and 27.3.3.3.2 only.

5000-530 Log #410 BLD-MER  FINAL ACTION: Accept in Principle (27.3.3)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-787

RECOMMENDATION: Revise 27.3.3.3 to read:

27.3.3.3.3 Interior floor finish shall comply with Section 10.6.6
27.3.3.3.3 Interior floor finish in exit enclosures shall be Class I or Class II

Give consideration to the proposal, so as to make any needed changes.

COMMITTEE MEETING ACTION: Accept in Principle

Editorially revise the submitter’s proposed section 27.3.3.3.3 to read as follows:

“27.3.3.3.3 Interior floor finish shall comply with 10.6.1 or 10.6.2 as applicable.”

COMMITTEE STATEMENT: Editorial correction.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 13 Negative: 2

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE: GAUVIN: NEMA agrees in part with the comments from Mr. Humble. However we see this change not as redundant but as conflicting and confusing. It is not clear what the actual requirement is – to comply with the entire section of Section 10.6 (per 27.3.3.3.1) or only to comply with the requirements of 10.6.1 or 10.6.2 (per 27.3.3.3.3)?

HUMBLE: It remains unclear the necessity to adopt provisions for the sake of consistency when in this case the provisions are duplicative within the proposal itself. In this case 27.3.3.3.1 states that compliance must be made with Section 10.6. Duplicating that provision is the other part of the proposal to add Section 10.6.1 that states the floor finish must comply with 10.6.1 and 10.6.2, but that has been done since that is required in 27.3.3.3.1 which references Section 10.6 in its entirety. In regard to the phrase “as applicable”, this emphasis currently applies to the entire document anyway. I would respectfully submit that the proposal requires the incorporation of 27.3.3.3.1 and 27.3.3.3.2 only.
with NFPA 72, Section 6.8.4, provided that the emergency use takes precedence over any other use. This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee intends that at a minimum one manual fire alarm box be provided, and does not have concerns with being redundant in this regard.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15 BALLOT NOT RETURNED: 6 BOCCLI, DODGE, FRANCIS, MARTIN, MOON, TOMES

The requirement in NFPA 72, 6.8.1.2 for a single manual fire alarm box is a performance requirement of this Standard to provide a manual means to activate the system, regardless of the occupancy classification of the protected premise. This is to provide a means to activate the alarm should the system be down for testing or maintenance. This requirement is within the purview of the Signaling Systems for the Protection of Life and Property project. The original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee intends that at a minimum one manual fire alarm box be provided, and does not have concerns with being redundant in this regard.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15 BALLOT NOT RETURNED: 6 BOCCLI, DODGE, FRANCIS, MARTIN, MOON, TOMES

5000-532 Log #211 BLD-MER FINAL ACTION: Reject

(27.3.4.3.1)

SUBMITTER: Daniel J. Gauvin, Tyco/Simplex Grinnell

COMMITTEE ON PROPOSAL NO: 5000-789

RECOMMENDATION: Revise 27.3.4.3.1 as originally proposed, i.e., 27.3.4.3.1 Occupant Notification. During all times that the mercantile occupancy is occupied, the required fire alarm system, once initiated, shall perform one of the following functions:

1. It shall activate an alarm in accordance with 55.2.3 throughout the mercantile occupancy, except a positive alarm sequence in accordance with 55.2.3.4 shall be permitted.

2. It shall activate an alarm signal in a continuously attended location for the purpose of initiating emergency action by personnel trained to respond to emergencies, and such emergency action shall be initiated by means of live voice public address system announcements originating from the attended location where the alarm signal is received.

3. The emergency voice/alarm communication live voice public address system shall be permitted to be used for other announcements in accordance with NFPA 72, Section 6.8.4, provided that the emergency use takes precedence over any other use.

4. In lieu of live voice public address system announcements, any other occupant notification means in accordance with 55.2.3 shall be permitted.

SUBSTANTIATION: 1. The Codes and the Code Making Process currently addresses the assignment of scope as follows:

In accordance with the Guide for Committee Officers of Technical Committees and Technical Correlating Committees of National Fire Protection Association, Annex A-9, an Occupancy Committee should wherever possible reference and incorporate an installation standard for public address systems.

NFPA 101 Section 4.5.6 states, Any fire protection system, building service equipment, feature of protection, or safeguard provided for life safety shall be designed, installed, and approved in accordance with applicable NFPA standards.

When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope for the installation and performance of the fire alarm system lies with the NFPA 72 Fire Alarm Code.

– The Building and Life Safety Codes identify when and where fire alarm systems and features are required.

– NFPA 72 is the installation standard that identifies how the fire alarm system and associated fire alarm system features required by the Building and/or Life Safety Codes must perform, be installed, and tested.

If NFPA 101 or NFPA 5000 Technical Committee does not agree with the requirements of NFPA 72 for fire alarm notification then NFPA 101 and/or NFPA 5000 Technical Committee should submit a proposal to NFPA 72.

2. Other Building Codes and Jurisdictions may begin to question whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception to the minimum requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.

3. NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for:

– Secondary power,

– Monitoring integrity (circuit supervision),

– Survivability,

– Audible and visible characteristics,

– Testing, maintenance, record keeping, etc.

The requirement in NFPA 72, 6.8.5.1.2 for a single manual fire alarm box is a performance requirement of this Standard to provide a manual means to activate the system, regardless of the occupancy classification of the protected premise. This is to provide a means to activate the alarm should the system be down for testing or maintenance. This requirement is within the purview of the Signaling Systems for the Protection of Life and Property project. The original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee intends that at a minimum one manual fire alarm box be provided, and does not have concerns with being redundant in this regard.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15 BALLOT NOT RETURNED: 6 BOCCLI, DODGE, FRANCIS, MARTIN, MOON, TOMES

Explination of Negative: Gauvin: NEMA agrees with the substantiation provided by the submitter.
5000-534 Log #598 BLD-MER  
REPORT ON PROPOSAL NO: 5000-795
RECOMMENDATION: Accept Proposal 5000-795.
SUBSTANTIATION: This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems.

5000-535 Log #212 BLD-MER  
REPORT ON PROPOSAL NO: 5000-796
RECOMMENDATION: Revise 27.4.10.3.1 as originally proposed, i.e., 27.4.10.3.1. Occupant Notification. During all times that the mall is occupied, the required fire alarm system, once initiated, shall be in one of the following functions:

(1) It shall activate a general alarm in accordance with 55.2.3 throughout the mall, except a positive alarm sequence in accordance with 55.2.3.4 shall be permitted.

(2) It shall activate an alarm signal in a continuously attended location for the purpose of initiating emergency action by personnel trained to respond to emergencies. Emergency action Occupant notification in accordance with 55.2.3 shall be initiated by means of live voice public address system announcements originating from the attended location where the alarm signal is received.

(3) The emergency voice/alarm communication live voice public address system shall be permitted to be used for other announcements in accordance with NFPA 72, 2002 Edition, Section 6.8.4, provided that the emergency use takes precedence over any other use.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-535.

5000-534 Log #598 BLD-MER  
FINAL ACTION: Reject
(27.4.10.3.1)
3. NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for:  
- Secondary power,  
- Monitoring integrity (circuit supervision),  
- Sur ubility,  
- Audible and visible characteristics,  
- Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant notification systems. For example:  
- In a fire emergency it is not uncommon to experience a loss of primary power. Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements.  
- In today’s environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror.

4. There are no installation standards or performance requirements applicable to Public Address systems. AHJ’s do not have any standards to ensure and enforce the reliability and minimum performance requirements for public address systems are met. Some Public Address systems provide speaker volume controls accessible to occupants that may be used to completely turn off the means of notification in their areas. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm notification.

5. NFPA 72 and NFPA 101 also address the desire to eliminate the cost of requiring duplicative similar systems:  
In accordance with NFPA 72 section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication systems that are also listed for paging applications - eliminating the need for duplicative systems. Where sophisticated public address audio systems are required the technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.

6. The option also currently exists for Equivalency and Performance Based Options in accordance with NFPA 101 Section 1.4 and NFPA 101 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72 National Fire Alarm Code for any occupancy. In some venues, PA systems may be a preferred and valid approach. However, because PA systems are not required to meet the minimum performance criteria of any standards, THE USE OF PUBLIC ADDRESS SYSTEMS NOT LISTED FOR THE PURPOSE OF FIRE ALARM OCCUPANT NOTIFICATION SHOULD ONLY BE APPLIED USING THE PERFORMANCE BASED PROVISIONS IN THE CODE.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-532.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 14 Negative: 1
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE:
GAUVIN: NEMA agrees with the substantiation provided by the submitter.

SUBMISSION: When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope of the installation and performance of the fire alarm system lies with the NFPA 72, National Fire Alarm Code.

- The Building and Life Safety Codes identify when and where fire alarm systems and features are required.
- NFPA 72 is the installation standard that identifies how the fire alarm system required by the Building and/or Life Safety Code must perform, be installed, and tested.

The Codes and the Code Making Process currently addresses the assignment of scope as follows:

In accordance with Annex A-9 guidelines on potential jurisdictional (scope) issues between committees developing occupancy standards and committees developing installation standards, an Occupancy Committee should whenever possible refer to the requirements by an installation standard.

NFPA 5000 Section 4.4.6 states, Any fire protection system, building service equipment, feature of protection, or safeguard provided for fire and life safety shall be designed, installed, and approved, in accordance with applicable NFPA standards.

NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for:  
- Secondary power,  
- Monitoring integrity (circuit supervision),  
- Survivability,  
- Audible and visible characteristics,  
- Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant notification systems. For example:

- In a fire emergency it is not uncommon for the cause of the fire condition to also result in a loss of power.

Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements.

- In today’s environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror.

There are no installation standards or performance requirements applicable to Public Address systems. Some Public Address systems provide speaker volume controls accessible to occupants that may be used to completely turn off the means of notification in their areas. We also share the concerns associated with the use of public address systems as provided in the explanation of negative vote from Mr. Bartlett. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm occupant notification.

NFPA 72 and NFPA 5000 also address the desire to eliminate the cost of requiring duplicative similar systems:

- In accordance with NFPA 72 Section 6.8.4 Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication systems that are also listed for paging applications - eliminating the need for duplicative systems. Where sophisticated public address audio systems are required the technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.

- The option also exist for Equivalency and Performance Based Options in accordance with NFPA 5000 Section 1.5 and NFPA 2000 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72, National Fire Alarm Code for any occupancy. The prescriptive requirements of NFPA 72 occupant notification systems must be included as the basis for determining performance based options when desired.

It is the position of the NFPA 72 Technical Committee on Fundamentals of Fire Alarm Systems that systems used for the purpose of occupant notification of fire conditions falls within the scope of NFPA 72. This appears to be a correlation issue that needs to be addressed to determine which committee’s notification of occupants of a fire alarm condition resides.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-532.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 14 Negative: 1
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE:
GAUVIN: NEMA agrees with the substantiation provided by the Technical Committee on Fundamentals of Fire Alarm Systems.

5000-536 Log #255 BLD-MER

FINAL ACTION: Reject

(27.4.10.3.1)
(2) Light-transmitting plastics complying with Chapter 48 of NFPA 703, Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials

(e) Textiles and films complying with the flame propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films


COMMENT ON PROPOSAL: Accept this proposal in principle with the following language:

(27.4.4.12) Kiosks and similar structures shall be constructed of materials complying with the flammability section of ASTM F 1918, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, with a peak heat release rate not exceeding 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Kiosks and similar structures shall be constructed of materials complying with the flammability section of ASTM F 1918, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, with a peak heat release rate not exceeding 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(27.4.4.13) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Kiosks and similar structures shall be constructed of materials complying with the flammability section of ASTM F 1918, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(27.4.4.13) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Kiosks and similar structures shall be constructed of materials complying with the flammability section of ASTM F 1918, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(27.4.4.13) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


RECOMMENDATION: Accept this proposal in principle with the following language:

(27.4.4.12) Kiosks and similar structures shall be constructed of materials complying with the flammability section of ASTM F 1918, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(27.4.4.13) Children’s playground structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as regulated and should also be neither noncombustible, limited combustible, nor uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW; (5) materials used for ball pool walls to comply with the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Resistant Textiles and Films, and the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
children’s playgrounds need special types of floor surfacing equipment, placed between the mall floor and the children’s playground. The recommended types of surfaces for proper fall protection are: rubber mats, rubber tiles and poured-in-place rubber composition materials, which typically have poor fire performance. This is why flooring materials need fire test requirements.

Typical materials used for the exterior surfaces of the structures are materials in vivid and attractive colors and which have little probability of causing splinters or other such problems. Thus, the exterior materials are typically rigid plastics (more often than not polyethylene), foamed plastics, rubbers and textiles. Instead of abdicating the responsibility to ASTM F15 (issuer of ASTM F1918 recommended in the proposal), this comment incorporates them all into a code.

This comment uses the following requirements for fire performance of children’s playground materials, which are an upgrade over what ASTM F1918 provides. The comment upgrades the requirements for rigid plastics, to meet UL 94 V2 (instead of the milder UL 94 HB) and for textiles, to meet NFPA 701 for textiles (instead of the milder CA TB 117). NFPA 701 is, of course, already widely referenced in the code and UL 94 is used by UL (and all other nationally recognized testing labs running fire tests) for listing plastic material. The structures are built to make it challenging for the children to exit. Several minutes to wind his or her way through the structure to reach the child. Polyethylene materials should not be allowed into malls unless properly fire retarded.

Requirements for suppression and detection were also added, in response to the committee comments for context.

This comment also adds an Annex note, for information, to the code text, added to new section 27.4.4.13, as additional help to the user (compared with the other comment to proposal 5000-797).

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee does not believe that a fire and life safety problem has been demonstrated. The play structures are typically located in highly visible areas. The activities of children on and around these structures are associated with supervision by adults. Ignition typically located in highly visible areas. The activities of children on and around these play structures are considered to be minimal. The play structures are also notes that the terminology associated with the proposed sources on and around these play structures are considered to be minimal. Around these structures is associated with supervision by adults. Ignition typically located in highly visible areas. The activities of children on and around these play structures are considered to be minimal.

EXPLANATION OF ABSTENTION: THORNBERY: I have voted to abstain on this Comment since I am a special interest client in this proposal. I have specific interest in this Comment. Therefore, I am required by the NFPA Regulations Governing Committee Projects to abstain from voting.


COMMENT ON PROPOSAL: NO: 5000-797

RECOMMENDATION: Accept the proposal in part in principle with the following language in anew section:

27.4.4.13 Children’s Playground Structures. Stand-alone structures contained within shopping malls and intended as children’s playgrounds shall not be considered as temporary and shall meet the following requirements:

(1) Children’s playground structures shall be constructed of noncombustible materials, of limited combustible materials or of combustible materials that comply with the following:

(a) Fire retardant–treated wood complying with the requirements for fire retardant–impregnated wood in NFPA 703, Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials

(b) Light-transmitting plastics complying with Chapter 48 of NFPA 5000, Building Construction and Safety Code

(c) Foam plastics (including the pipe foam used in soft-contained play equipment structures) having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975

(d) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use

(e) Textiles and films complying with the flame propagation performance criteria contained in NFPA 5000, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films

(f) Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, window, panels, junction boxes, pipes, slides, and decks) meeting the UL 94 V-2 classification when tested in accordance with UL 94, Test for Flammability of Plastic Materials for Parts, Devices, and Appliances

(g) Ball pool balls, used in soft-contained play equipment structures, having a maximum heat release rate not greater than 100 kW when tested in accordance with UL 1975, Fire Tests for Foam-Ups Used for Decorative Purposes. The luminant shall be 110 in. by 36 in. by 36 in. by an average of 560 mm (21 in.) deep, and the balls shall be held in a box constructed of galvanized steel purlin cutting wire mesh

(h) Foam plastics shall be covered by a fabric, coating, or film meeting the flame propagation performance criteria of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films

(i) The floor surfaced placed under the children’s playground structure shall exhibit a Class I interior floor finish classification, as described in section 10.6, when tested in accordance with NFPA 253

(j) Children’s playground structures located within the mall shall be properly fire tested and approved for future installation.

(k) The minimum horizontal separation between children’s playground structures or groups of children’s playground structures and other structures, within the mall shall be 6100 mm (240 in.).

Each children’s playground structure shall have a maximum area of 27.8 m² (300 ft²).

SUBSTANTIATION: I will not repeat all the information provided in the proposal, but highlight some areas and provide added information, as well as respond to the issues raised by the technical committee in its statement regarding this proposal.

During the full scale fire test conducted on a mini structure (with a simple small cigarette lighter on a bit of newspaper) the following was found: (1) the temperature at all locations measured within the structure exceeded 100EC within less than 1 min from the beginning of the test, and did not return below 100EC for 5 of the 6 types used (and temperature would continue to rise at an undetermined rate in the other thermocouple, while still remaining above 65EC, before rising again); (2) the temperatures measured in the structure exceeded 700EC in every thermocouple; (3) the total smoke released exceeded 1,000 m² from the test (before the fire was extinguished); (4) the optical density measured in the test exceeded a value of 1 (in units of inverse metres) and (5) the structure reached flashover before being manually extinguished (over 5 megawatts of heat released).

This means that a child caught inside such a structure would be incapacitated within 1-2 min of a fire starting. A parent trying to rescue the child may need several minutes to wind his or her way through the structure to reach the child.

The structures are built to make it challenging for the children to exit.

The dimensions and separation recommended in the comment are identical to those the code requires for kiosks. To have some idea of the size of these playground structures, a few offered for sale at present have the following dimensions: 16 ft x 20 ft, 8 ft x 25 ft, 20 ft x 20 ft and up to 28 ft x 12 ft. Each children’s playground structure shall have a maximum area of 27.8 m² (300 ft²).
rigid plastics (more often than not polyethylene),foamed plastics, rubbers and textiles. Instead of abdicating the responsibility to ASTM F15 (issuer of ASTM F9198 recommended in the proposal), this comment incorporates them all into the code.

This comment uses the following requirements for fire performance of children’s playground materials, which are an upgrade over what ASTM F 1918 has. The comment upgrades the requirements for rigid plastics, to meet UL 94 V2 (instead of the milder UL 94 HB) and for textiles, to meet NFPA 701 for textiles (instead of the milder CA TB 117). NFPA 701 is, of course, already widely referenced in the code and UL 94 is used by UL (and all other nationally recognized testing labs running fire tests) for listing plastic materials. A long list of fire retarded polyethylene materials meeting UL 94 V2 is attached for information after a search of the UL data base, showing that it can be met easily. UL 1975 is already required in the codes for foam plastic display for plastic signs and for foam plastic displays and for foam plastic display in kiosks (in NFPA 5000) and for all foam plastic displays in assembly and mercantile occupancies (in NFPA 101). Light-transmitting plastics used for windows and the like (glass would not be used to prevent injuries) need to meet the same requirements that such materials need to meet in kiosks. The structural materials to be used (whether non-combustible, combustible or quasi combustible) need to be fire retardant treated wood) are the same as those for other mall structures. Finally, ACM materials might be used to offer certain added visual impacts, and the same requirement is placed for them as for them when used in kiosks. If rigid plastics such as polyethylene are used without fire retardance (as would be the case if requirements are not included) they can cause very severe fires on their own. As an example, a typical waste basket (22.4 lb) made of non FR polyethylene has been shown to emit > 1 megawatt on its own when ignited. Polyethylene materials should not be allowed into malls unless properly fire retardant treated.

Requirements for suppressions and detection were also added, in response to the committee concerns for context. This comment has a companion comment that does not contain an annex note.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-538.

BALLOT RESULTS: Affirmative: 14 Abstain: 1

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF ABSTENTION:

THORNBERRY: I have voted to abstain on the this Comment since I am a special interest in this Comment. Therefore, I am required by the NFPA Regulations Governing Committee Projects to abstain from voting.

REGULATIONS GIVERING COMMITTEE PROJECTS TO ABDSTAIN FROM VOTING.

5000-541 Log #511 BLD-MER

SUBMITTER: Marcelo M. Hirschler, GBH International

COMMENT ON PROPOSAL NO: 5000-797

RECOMMENDATION: Accept the proposal in part in principle with the following language in a new section.

27.4.4.13 Multilevel Play Structures. Stand-alone multilevel play structures contained within shopping malls and intended as children’s playgrounds shall not be considered as tenant spaces and shall meet the following requirements:

(a) Fire retardant-treated wood construction shall be 6100 mm (240 in.) by an average of 560 mm (21 in.) deep, and the balls shall be held in a box constructed of galvanized steel roofing metal wire mesh.

(b) Foam plastics shall be covered by a fabric, coating, or film meeting the flammability performance criteria of NFPA 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(c) Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, window, panels, junction boxes, pipes, slides, and decks) meeting the UL 94 V-2 classification when tested in accordance with UL 94, Test for Flammability of Plastic Materials for Parts, Devices, and Appliances.

(d) Ball pool balls, used in soft-contained play equipment structures, having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes.

(e) Textiles and films complying with the flame propagation performance criteria of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

COMMITTEE ACTION AND STATEMENT ON COMMENT 5000-797

The application, context and terminology of the proposed requirements are not clear. Distinction between the proposed requirements and that for special amusement needs to be provided. Also see committee statement for comment 5000-538.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 15 BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

FINAL ACTION: Reject (27.4.4.13)
EXPLANATION OF ABSTENTION:
THORNBERRY: I have voted to abstain on the this Comment since I am a special expert on the Technical Committee and I have clients who may have specific interest in this Comment. Therefore, I am required by the NFPA Regulations Governing Committee Projects to abstain from voting.

SUBMITTER: Marcelo M. Hirschler, GBH International

COMMENT ON PROPOSAL NO: 5000-797

RECOMMENDATION: Accept the proposal in part in principle with the following language in a new section:

(27.4.4.13) Multilevel play structures. Stand-alone multilevel play structures contained within shopping malls and intended as children’s playgrounds shall not be considered as tenant spaces and shall meet the following requirements:

1. Multilevel play structures shall be constructed of noncombustible materials, of limited combustible materials or of combustible materials that comply with the following:
   b. Light-transmitting plastics complying with Chapter 48
   c. Flexible materials used to construct rigid components of soft-contained play equipment structures (such as tubes, window, panels, junction boxes, pipes, slides, and decks) meeting the UL 94 V-2 classification when tested in accordance with UL 1975.
   d. Aluminum composite material (ACM) meeting the requirements of Class A of Chapter 10 when tested as an assembly in the maximum thickness intended for use.
   e. Textiles and films complying with the flame propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

2. Flexible materials used to construct rigid components of soft-contained play equipment structures, such as tors, window panels, junction boxes, pipes, slides, and decks) meeting the UL 94 V-2 classification when tested in accordance with UL 1975, Test for Flammability of Plastic Materials for Parts, Devices, and Appliances.

3. Multilevel play structures located within the mall shall be protected with approved fire suppression and detection devices.

4. The minimum horizontal separation between multilevel play structures or groups of multilevel play structures and other structures within the mall shall be 6100 mm (240 in.)

5. Each multilevel play structure shall have a maximum area of 27.8 m² (300 ft²).

A 27.4.4.13 Multilevel play structures are commonly present inside shopping malls, whose structures are not classified as interior finish, as decorative objects, as plastic signs, as kiosks, or as exhibit booths, for all of which there are requirements in the Life Safety Code, NFPA 101, or in the Building Construction and Safety Code, NFPA 5000. A fire test was conducted on a small version of a soft-contained play equipment structure, constructed of materials complying with the flammability section of ASTM F 1918, Standard Fire Safety Performance Specifications for Soft-Contained Play Equipment, which is a specification for such structures. The structure generated a very severe fire (exceeding 3 MW of heat release rate, and 1,000 m² of smoke released, before extinction). M. M. Hirschler, Fire Safety of Children’s Playground Structures, FPFH Fire Risk and Fire Hazard Symposium June 2004). Therefore, the materials of construction of multilevel play structures should be regulated, and should also be either noncombustible, limited combustible constructed of materials permitted for kiosks in malls (such as fire retardant treated wood), or exempted from the requirements of the flammability section of ASTM F 1918. ASTM F 1918 requires: (1) plastic materials used for rigid components to comply with a UL 94 HB classification when tested to UL 94, Test for Flammability of Plastic Materials for Parts Devices, and Appliances; (2) materials used for foam padding (excluding pipe foam) to comply with the requirements of California Technical Bulletin 117, Section A, Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filing Materials Used in Upholstered Furniture; (3) materials used for foam padding to be covered by a fabric, coating or film that meets the requirements of NFPA 701, Standard Method of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam padding to comply with the requirements of UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, with a peak heat release rate not exceeding 100 kW; (5) materials used for ball pool balls to comply with the requirements of UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, with a peak heat release rate not exceeding 100 kW and (6) knitted and woven fabrics, whether coated or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Test for Flame Resistant Textiles and Films. The requirements of this section exceed those of the flammability section of ASTM F 1918 for both rigid plastics and textiles, and permit the use of other materials, similar to those permitted for use in kiosks and other small structures.

Also all list of ASTM informational references.

SUBSTANTIATION: I will not repeat all the information provided in the proposal or in other comments regarding Proposal 5000-797.

I am submitting two companion comments to the comments I submitted to Proposal 5000-797, with different terminology. In this comment, and in the one not including an annex note, I call the structures "multilevel play structures" (as defined in NFPA 5000 in 3.3.530.7 instead of children’s playground structures.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-541 and 5000-588.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 14 Abstain: 1
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF ABSTENTION:
THORNBERRY: I have voted to abstain on the this Comment since I am a special expert on the Technical Committee and I have clients who may have specific interest in this Comment. Therefore, I am required by the NFPA Regulations Governing Committee Projects to abstain from voting.

RECOMMENDATION:

SUBSTANTIATION:

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See the above recommendation.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES
5000-545 Log #597 BLD-MER FINAL ACTION: Reject (27.4.5.4.2) SUBMITTER: J. Jeffrey Moore, Hughes Associates, Inc. COMMENT ON PROPOSAL NO: 5000-805 RECOMMENDATION: Accept Proposal 5000-805. SUBSTANTIATION: This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems. The requirement in NFPA 72, 6.8.5.1.2 for a single manual fire alarm box is a performance requirement of this Standard to provide a manual means to activate the system, regardless of the occupancy classification of the protected premise. This is to provide a means to activate the alarm should the system be down for testing or maintenance. This requirement is within the purview of the Signalized System Protection of Life and Property project. The original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards. COMMITTEE MEETING ACTION: Reject COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-531. NUMBER ELIGIBLE TO VOTE: 21 BALLOT RESULTS: Affirmative: 15 BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

5000-546 Log #213 BLD-MER FINAL ACTION: Reject (27.4.5.4.3) SUBMITTER: Daniel J. Gauvin, Tyco/Simplex Grinnell COMMENT ON PROPOSAL NO: 5000-806 RECOMMENDATION: Revise 27.4.5.4.3 as originally proposed, i.e., 27.4.5.4.3 Occupant Notification. During all times that the building is occupied, the required fire alarm system, once initiated, shall perform one of the following functions: (1) It shall activate a general alarm in accordance with 55.2.3 throughout the building, except a positive alarm sequence in accordance with 55.2.3.4 shall be permitted. (2) It shall activate an alarm signal in a continuously attended location for the purpose of initiating emergency action by personnel trained to respond to emergencies. Emergency action Occupant notification in accordance with 55.2.3 shall be initiated by means of live voice public address system means originating from the attended location where the alarm signal is received. (3) The emergency voice/alarm communication live voice public address system shall be permitted to be used for other announcements in accordance with NFPA 72, Section 6.8.4, provided that the emergency use takes precedence over any other use. (4) In lieu of live voice public address system announcements, any other occupant notification means in accordance with 55.2.3 shall be permitted. SUBSTANTIATION: 1. The Codes and the Code Making Process currently addresses the assignment of scope acs follows: In accordance with the guide for Committee Officers of Technical Committees and Technical Correlating Committees of National Fire Protection Association, Annex A-9, an Occupancy Should whatever possible reference the requirements by an installation standard. NFPA 101 Section 4.5.6 states, Any fire protection system, building service equipment, or safeguard provided for life safety shall be designed, installed, and approved in accordance with applicable NFPA standards. When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope for the installation and performance of the fire alarm system lies with the NFPA 72 Fire Alarm Code. – The Building and Life Safety Codes identify when and where fire alarm systems and features are required. – NFPA 72 is the installation standard that identifies how the fire alarm system and associated fire alarm system features required by the Building and/ or Life Safety Codes must perform, be installed, and tested. If NFPA 101 or 5000 requires occupants to be notified of a fire condition then the requirements for the Occupant Notification of the fire condition must comply with NFPA 72. If an NFPA 101 and/or 5000 Technical Committee does not agree with the requirements of NFPA 72 for occupant notification then the NFPA 101 and/or 5000 Technical Committee should submit a proposal to NFPA 72. 2. Other Building Codes and Jurisdictions may begin to question whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception the minimum requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.

3. NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for: - Secondary power, - Monitoring integrity (circuit supervision), - Survivability - Audible and visible characteristics, - Testing, maintenance, record keeping, etc. These are minimum fundamental requirements of NFPA 72 occupant notification systems. These are minimum fundamental requirements of NFPA 72 occupant notification systems. For example; - In a fire emergency it is not uncommon to experience a loss of primary power. Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements. - In today's environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to the possibility of loss of power. These systems must be protected with NFPA 72 secondary power requirements. - The option currently exists for Equivalency and Performance Based Options in accordance with NFPA 101, Section 1-4 and NFPA 101 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72 National Fire Alarm Code for any occupancy. In some venues, PA Systems may be a preferred and valid approach. However, because PA systems are not required to meet the minimum performance criteria of any standards, THE USE OF PUBLIC ADDRESS SYSTEMS NOT LISTED FOR THE PURPOSE OF FIRE ALARM OCCUPANT NOTIFICATION SHOULD ONLY BE ALLOWED USING THE PERFORMANCE BASED PROVISIONS IN THE CODE. COMMITTEE MEETING ACTION: Reject COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-553. NUMBER ELIGIBLE TO VOTE: 21 BALLOT RESULTS: Affirmative: 14 Negative: 1 BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES EXPLANATION OF NEGATIVE: GAUVIN: NEMA agrees with the substantiation provided by the submitter.

5000-547 Log #256 BLD-MER FINAL ACTION: Reject (27.4.5.4.3) SUBMITTER: Technical Committee on Fundamentals of Fire Alarm Systems COMMENT ON PROPOSAL NO: 5000-806 RECOMMENDATION: Revise 27.4.5.4.3 as originally proposed, i.e., 27.4.5.4.3 Occupant Notification. During all times that the mercantile occupancy is occupied, the required fire alarm system, once initiated, shall perform one of the following functions: (1) It shall activate an alarm in accordance with 55.2.3 throughout the building, except a positive alarm sequence in accordance with 55.2.3.4 shall be permitted. (2) It shall activate an alarm signal in a continuously attended location for the purpose of initiating emergency action by personnel trained to respond to emergencies. Emergency action Occupant notification in accordance with 55.2.3 shall be initiated by means of live voice public address system means originating from the attended location where the alarm signal is received. (3) The emergency voice/alarm communication live voice public address system shall be permitted to be used for other announcements in accordance with NFPA 72, Section 6.8.4, provided that the emergency use takes precedence over any other use. (4) In lieu of live voice public address system announcements, any other occupant notification means in accordance with 55.2.3 shall be permitted. SUBSTANTIATION: When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope for the installation and performance of the fire alarm system lies with the NFPA 72 Fire Alarm Code.

- The Building and Life Safety Codes identify when and where fire alarm systems and features are required. - NFPA 72 is the installation standard that identifies how the fire alarm system and associated fire alarm system features required by the Building and/ or Life Safety Codes must perform, be installed, and tested. If NFPA 101 or 5000 requires occupants to be notified of a fire condition then the requirements for the Occupant Notification of the fire condition must comply with NFPA 72. If an NFPA 101 and/or 5000 Technical Committee does not agree with the requirements of NFPA 72 for occupant notification then the NFPA 101 and/or 5000 Technical Committee should submit a proposal to NFPA 72. 2. Other Building Codes and Jurisdictions may begin to question whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception the minimum requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.

- The Building and Life Safety Codes identify when and where fire alarm systems and features are required. - NFPA 72 is the installation standard that identifies how the fire alarm system and associated fire alarm system features required by the Building and/ or Life Safety Codes must perform, be installed, and tested. If NFPA 101 or 5000 requires occupants to be notified of a fire condition then the requirements for the Occupant Notification of the fire condition must comply with NFPA 72. If an NFPA 101 and/or 5000 Technical Committee does not agree with the requirements of NFPA 72 for occupant notification then the NFPA 101 and/or 5000 Technical Committee should submit a proposal to NFPA 72. 2. Other Building Codes and Jurisdictions may begin to question whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception the minimum requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.
NFPA 5000 Section 4.4.6 states, Any fire protection system, building service equipment, feature of protection, or safeguard provided for fire and life safety shall be designed, installed, and approved, in accordance with applicable NFPA standards.

NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for:
- Secondary power,
- Monitoring integrity (circuit supervision),
- Survivability,
- Audible and visible characteristics,
- Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant notification systems. For example:
- In a fire emergency, it is not uncommon for the cause of the fire condition to also result in a loss of power.

Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements. In today’s environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror.

There are no installation standards or performance requirements applicable to Public Address systems. Some Public Address systems provide speaker volume controls and feature control points that may be used to completely turn off or override the means of notification in their areas. We also share the concerns associated with the use of public address systems as provided in the explanation of negative vote from Mr. Bartlett. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm occupant notification.

NFPA 72 and NFPA 5000 also address the desire to eliminate the cost of requiring duplicative similar systems.
- In a fire emergency, it is not uncommon for the cause of the fire condition to also result in a loss of power.

The options also exist for Equivalency and Performance Based Options — The option also exist for Equivalency and Performance Based Options.

Some Public Address systems provide speaker volume controls and feature control points that may be used to completely turn off or override the means of notification in their areas. We also share the concerns associated with the use of public address systems as provided in the explanation of negative vote from Mr. Bartlett. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm occupant notification.

5000-549 Log #145 BLD-MER 5000-548 Log #504 BLD-MER (28.2.2.13 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to ACCEPT in IN PRINCIPLE. See the committee action on 5000-343. The TCC notes that rather than rejecting the comment as BLD-MER indicates, BLD-MEA created a new section that allows use of such devices without giving them any credit for traditional egress components.

SUBMITTER: David A. de Vries, Firetech Engineering

COMMITTEE MEETING ACTION: Final Action

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Reject

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Reject

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

REPORT: Give consideration, so as to make any needed changes, to correlating this provision with its counterpart in NFPA 101 (as appearing in the errata to the first printing of NFPA 101-2003, and as shown in the second printing). The corrected paragraph has 3 subparts and retains the concept from earlier editions of NFPA 101 that not only access is required to two exits, but both of the required exits must be ON the floor (that is, unenclosed exit access stair cells cannot be used to satisfy the minimum number of means of egress for floors required to have 2 means of egress).

SUBMISSION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Revise section 28.2.4 to read as follows:

28.2.4 Number of Exit Doors.

28.2.4.1 Exit doors shall comply with the following except as otherwise permitted by 28.2.4.2 through 28.2.4.6.

1. The number of means of egress shall be in accordance with Section 11.4.

2. Not less than two separate exit doors shall be provided on every story.

3. Not less than two separate exits shall be accessible from every part of every story.

28.2.4.2 Exit access by required 28.2.4.1(s) shall be permitted to include a single exit access path for the distances permitted as common paths of travel by 28.2.5.3.

28.2.4.3 A single exit shall be permitted for a room or area with a total occupant load of fewer than 100 persons, provided that the following criteria are met:
(1) The exit shall discharge directly to the outside at the level of exit discharge for the building.

(2) The total distance of travel from any point, including travel within the exit, shall not exceed 30 m (100 ft).

(3) Such travel shall be on the same floor level or, if traversing of stairs is necessary, such stairs shall not exceed 4570-mm (180-in.) in height, and the stairs shall be provided with complete enclosures to separate them from any other part of the building, with no door openings therein.

(4) A single outside stair in accordance with 11.2.2 shall be permitted to serve all floors permitted within the 4570-mm (180-in.) vertical travel limitation.

28.2.4.4 Any business occupancy not exceeding three stories, and not exceeding an occupant load of 30 people per floor, shall be permitted a single separate exit to each floor, provided the following criteria are met:

(1) This arrangement shall be permitted only where the total travel distance to the outside of the building does not exceed 30 m (100 ft) and where the exit is enclosed in accordance with 11.1.3.2, serves no other levels, and discharges directly to the outside.

(2) A single outside stair in accordance with 11.2.2 shall be permitted to serve all floors.

28.2.4.5 A single means of egress shall be permitted from a mezzanine within a business occupancy, provided that the common path of travel does not exceed 23 m (75 ft), or 30 m (100 ft) if protected throughout by an approved, supervised automatic sprinkler system in accordance with NFPA 13 and section 55.2.3.

28.2.4.6 A single exit shall be permitted for a maximum two-story, single-tenant space/building that is protected throughout by an approved, supervised automatic sprinkler system in accordance with NFPA 13 and 55.2.3, and where the total travel distance to the outside does not exceed 30 m (100 ft).

COMMITTEE STATEMENT:
This meets the intent of the submitter and makes the wording consistent with NFPA 101. It was not the committee’s intent to delete the provision requiring two separate exits on every story as identified in proposal 5000-810 of the ROP.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-811
RECOMMENDATION: Give consideration to the proposal, so as to make any needed changes, for purposes of achieving consistency with other occupancy chapters.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement on Comment 5000-551.
COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-551.
NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 13 Negative: 2
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE:
GAUVIN: NEMA agrees in part with the comments from Mr. Humble. However we see this change not as redundant but as conflicting and confusing.

MOON, TOMES

COMMITTEE STATEMENT:
It remains unclear the necessity to adopt provisions for the sake of consistency when in this case the provisions are duplicative within the proposal itself. In this case 28.3.3.3.1 states that compliance must be made with Section 10.6. Duplicating that provision is the other part of the proposal to add 28.3.3.3.3 that states the floor finish must comply with 10.6.1 and 10.6.2, but that has been done since that is required in 28.3.3.1 which references Section 10.6 in its entirety. In regard to the phrase “as applicable,” this emphasis currently applies to the entire document anyway. I would respectfully submit that the proposal requires the incorporation of 28.3.3.3.1 and 28.3.3.3.2 only.

FINAL ACTION: Reject

SUBMITTER: J. Jeffrey Moore, Hughes Associates, Inc.
COMMENT ON PROPOSAL NO: 5000-812
RECOMMENDATION: Accept Proposal 5000-812.
SUBSTANTIATION: This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems.

The requirement in NFPA 72, 6.8.5.1.2 for a single manual fire alarm box is a performance requirement of this Standard to provide a manual means to activate the system, regardless of the occupancy classification of the protected premises. This is to provide a means to activate the alarm should the system be down for testing or maintenance. This requirement is within the purview of the Signaling Systems for the Protection of Life and Property project. The original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards.

COMMITTEE MEETING ACTION: Revert
COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-531.
NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 13
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

SUBMITTER: Daniel J. Gauvin, Tyco/Simplex Grinnell
COMMENT ON PROPOSAL NO: 5000-813
RECOMMENDATION: Revise 28.3.4.3.1 as originally proposed, i.e., 28.3.4.3.1 Occupancy Notification. During all times that the building is occupied, the required fire alarm system, once initiated, shall perform one of the following functions:

(1) It shall activate an alarm in accordance with 55.2.3 throughout the business occupancy, except a positive alarm sequence in accordance with 55.2.3.4 shall be permitted.

(2) It shall activate an alarm signal in a continuously attended location for the purpose of initiating emergency action by personnel trained to respond to emergencies. Occupant notification in accordance with 55.2.3 and such emergency action shall be initiated by means of five public address system announcements originating from the attended location where the alarm signal is received.

(3) In lieu of five voice public address system announcements, any other occupant notification means in accordance with 55.2.3 shall be permitted.

SUBSTANTIATION: 1. The Codes and the Code Making Process currently address the assignment of scope as follows:

In accordance with the Guide for Committee Officers of Technical Committees and Technical Correlating Committees of National Fire Protection Association, Annex A-9, an Occupancy Committee should wherever possible reference the requirements by an installation standard.

NFPA 101 Section 4.5.6 states, Any fire protection system, building service equipment, feature of protection, or safeguard provided for life safety shall be designed, installed, and approved in accordance with applicable NFPA standards.

When the Building and Life Safety Code require a fire alarm system feature such as occupant notification of a fire condition the scope for the installation
Report on Comments — Copyright, NFPA

and performance of the fire alarm system lies with the NFPA 72 Fire Alarm Code.
- The Building and Life Safety Codes identify when and where fire alarm systems and features are required.
- NFPA 72 is the installation standard that identifies how the fire alarm system and associated fire alarm system features required by the Building and/or Life Safety Codes must perform, be installed, and tested.

If NFPA 101 or 5000 requires occupants to be notified of a fire condition then the requirements for the Occupant Notification of the fire condition must comply with NFPA 72.

If an NFPA 101 and/or 5000 Technical Committee does not agree with the requirements of NFPA 72 for occupant notification then the NFPA 101 and/or 5000 Technical Committee shall submit a proposal to NFPA 72.

2. Other Building Codes and Jurisdictions may begin to question whether the requirements of NFPA Codes and Standards should be adopted as minimum regulatory requirements knowing that its own Building and Life Safety Codes are taking exception to the minimum requirements of the NFPA 72 Fire Alarm Code. If the NFPA Building and Life Safety Codes take exception to the minimum requirements for Fire Alarm Occupant Notification Systems in accordance with NFPA 72, it sets a precedent that has the potential to cast doubt on the integrity of all NFPA Codes and Standards.

3. NFPA 72 has specific minimum performance requirements for Occupant Notification such as performance levels for:
- Secondary power,
- Monitoring integrity (circuit supervision),
- Survivability,
- Audible and visible characteristics,
- Testing, maintenance, record keeping, etc.

These are minimum fundamental requirements of NFPA 72 occupant notification systems. For example:
- In a fire emergency it is not uncommon to experience a loss of primary power. Often the fire alarm system is the only reliable emergency notification system due to NFPA 72 secondary power requirements.
- In today’s environment the monitoring and integrity requirements of NFPA 72 are necessary to ensure the system wiring is not altered or tampered with due to building maintenance, acts of vandalism, arson, or terror.
- There are no installation standards or performance requirements applicable to Public Address systems. AHJ’s do not have any standards to ensure and enforce the reliability and minimum performance requirements for public address systems are met. Some Public Address systems provide speaker volume controls accessible to occupants that may be used to completely turn off the means of notification in their areas. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm occupant notification.

5. NFPA 72 and NFPA 101 also address the desire to eliminate the cost of requiring duplicative similar systems. In accordance with NFPA 72 section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication Systems that are also listed for paging applications - eliminating the need for duplicative systems. Where sophisticated public address audio systems are required the technology exists for system manufacturers to design and manufacture systems that also comply with NFPA 72 as combination systems.

6. The option also currently exists for Equivalency and Performance Based Options in accordance with NFPA 101 Section 1-4 and NFPA 101 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72 National Fire Alarm Code for any occupancy. In some venues, PA Systems may be a preferred and valid approach. However, because PA systems are not required to meet the minimum performance criteria any standards, THE USE OF PUBLIC ADDRESS SYSTEMS NOT LISTED FOR THE PURPOSE OF FIRE ALARM OCCUPANT NOTIFICATION SHOULD ONLY BE APPLIED USING THE PERFORMANCE BASED PROVISIONS IN THE CODE.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-532.

NFPA 72 DISCREPANCY TO VOTE: 21

BALLOT RESULTS: Affirmative: 14 Negative: 1

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE: GAUVIN: NEMA agrees with the substantiation provided by the submitter.

5000-554 Log #257 BLD-MER

FINAL ACTION: Reject

(28.3.4.3.1)

SUBMITTER: Technical Committee on Fundamentals of Fire Alarm Systems

COMMITTEE RECOMMENDATION: Revise 28.3.4.3.1 as originally proposed, i.e., 28.3.4.3.1.1 Occupant Notification. During all times that the building is occupied, the required fire alarm system, once initiated, shall perform one of the following functions:

(1) It shall activate an alarm in accordance with 55.2.3 throughout the business occupancy, except a positive alarm sequence in accordance with 55.2.3.4 shall be permitted.
(2) It shall activate an alarm signal in a continuously attended location for the purpose of initiating emergency action by personnel trained to respond to emergencies. Occupant notification in accordance with 55.2.2 and such emergency action shall be initiated by means of live voice public address system announcements originating from the attended location where the alarm signal is received.

The option also exist for Equivalency and Performance Based Options applicable to Public Address systems. Some Public Address systems provide speaker volume controls accessible to occupants that may be used to completely turn off the means of notification in their areas. The allowed use of public address systems in the NFPA Building and Life Safety Codes without including the installation and performance requirements for an NFPA 72 Emergency Voice/Alarm Communications system does not provide the minimum requirements for fire alarm occupant notification.

NFPA 72 and NFPA 5000 also address the desire to eliminate the cost of requiring duplicative similar systems:
- In accordance with NFPA 72 Section 6.8.4, Fire Alarm systems are allowed to be used as Combination Systems that share components, circuitry, and installation wiring with non-fire alarm systems. Several manufacturers offer NFPA 72 Emergency Voice/Alarm Communication Systems that are also listed for paging applications - eliminating the need for duplicative systems. Where sophisticated public address audio systems are required, the technology exists for system manufacturers to design and manufacture systems that also comply with the requirements of NFPA 72 as combination systems.
- The option also exist for Equivalency and Performance Based Options in accordance with NFPA 5000 Section 1.5 and NFPA 5000 Chapter 5 respectively. These sections may be applied to allow use of alternative systems and performance methods. The NFPA Building and Life Safety Code must not circumvent the prescriptive performance requirements of its own NFPA 72, National Fire Alarm Code for any occupancy. The prescriptive requirements of NFPA 72 occupant notification systems must be included as the basis for determining performance based options when desired.

The position of the NFPA 72 Technical Committee on Fundamentals of Fire Alarm Systems that systems used for the purpose of occupant notification of fire conditions falls within the scope of NFPA 72. This appears to be a correlation issue that needs to be addressed to determine which committee’s purview notification of occupants of a fire alarm condition resides.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement on Comment 5000-532.

NUMBER ELIGIBLE TO VOTE: 21

BALLOT RESULTS: Affirmative: 14 Negative: 1

BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

5000-243
EXPLANATION OF NEGATIVE:
GAUVIN: NEMA agrees with the substantiation provided by the Technical Committee on Fundamentals of Fire Alarm Systems.

5000-554a Log #CC632 BLD-MER FINAL ACTION: Accept
(28.3.6.2)

SUBMITTER: Technical Committee on Mercantile and Business Occupancies

REPORT ON PROPOSAL NO: 5000-810

RECOMMENDATION: 1. Add an asterisk to 28.3.6.1, delete the asterisk from 28.3.6.1(2), and delete 28.3.6.2 as follows:

28.3.6.1 * Where access to exits is provided by corridors, such corridors shall be separated from use areas by walls having a fire resistance rating of not less than 1 hour in accordance with Section 8.4, unless one of the following conditions exists:

(1) Where exits are available from an open floor area
(2) Within a space occupied by a single tenant
(3) Within buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 55.3 and 55.3.2

28.3.6.2. Unenclosed exits available from an open floor area, or unenclosed exits that serve a space occupied by a single tenant, shall not be required to be protected in accordance with 28.3.6.1.

2. Renumber Annex A 28.3.6.2 and revise it as follows:

A 28.3.6.2 A 28.3.6.1 Where exits are available from an open floor area, such as are found in open plan or flexible office buildings, corridors are not required to be separated. An example of an open plan or flexible office building is a building in which the work spaces and access to exits are delineated by the use of tables, desks, bookcases, or counters or by nonpermanent partitions that are less than floor-to-ceiling height. It is the intent of 28.3.6.2 that a single tenant be limited to an area occupied under a single management and work the same hours. The concept is that people under the same employ working the same hours would likely be familiar with their entire tenant space. It is not the intent to apply this provision simply because tenants are owned by the same organization. For example, in a government-owned office building, the offices of different federal agencies would be considered multiple tenants because an employee normally works for one agency. The agencies might work various hours. Another example of multiple tenancy would be a classroom building of a university, since some classrooms might be in use at times when other classrooms are not being used.

The intent of 28.3.6.1(3) is to permit spaces within buildings protected throughout by an approved, supervised automatic sprinkler system, to be open to the exit access corridor without separation.

3. Delete A 28.3.6.1(2) as follows:

3. Delete A.28.3.6.1(2) The intent of 28.3.6.1(2) is to permit spaces within single-tenant spaces, or within buildings protected throughout by an approved, supervised automatic sprinkler system, to be open to the exit access corridor without separation.

SUBSTANTIATION: This comment has been tied to Proposal 5000-810 on 28.2.4.2 because there is no ROP proposal directly addressing 28.3.6. Proposal 5000-810 deals with Exits and this comment deals with deleting a paragraph that mistakenly uses the term “Unenclosed Exits.” In the ROC for the 2003 edition of NFPA 5000, The TCC action on Comment 101-377 that worked the subject of 28.3.6.2 into what became 28.3.6.1(1) and (2) failed to mention that proposed 28.3.6.2 needed to be deleted. All three exceptions (open plan, single tenant, and sprinklered buildings) are adequately covered in 28.3.6.1 so as to permit 28.3.6.2 to be deleted. The alternative language referenced was not 28.3.6.2.3 (misnomer) and another reason why 28.3.6.2 needs to be deleted. The annex needs to be retained but renumbered and revised so as to have application to 28.3.6.1. Annex A.28.3.6.1(2) can be deleted as it is adequately covered by the expanded A.28.3.6.1.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 14 Abstain: 1
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOME

EXPLANATION OF ABSTENTION:
THORNBERRY: I have voted to abstain on the this Comment since I am a special expert on the Technical Committee and I have clients who may have specific interest in this Comment. Therefore, I am required by the NFPA Regulations Governing Committee Projects to abstain from voting.

5000-555 Log #478 BLD-IND FINAL ACTION: Reject
(29.2.9.2(2))

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-819

RECOMMENDATION: Revise to read as follows:

1. Special-purpose industrial occupancies without routine human habitation
(2) Structures occupied only during daylight hours, with skylights or windows arranged to provide the required level of illumination on all portions of the means of egress during such hours.

SUBSTANTIATION: Chapter 1 of NFPA 5000 does not allow you to put limits on the operation of a building. Once a C of O is issued that building can be used at any time. Plus the current text still requires the correct amount of light (ft candles). But what happens during a rain/snow storm? How is an AHJ going to stop the building being occupied every day it rains or snows?

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT:
5000-556 Log #147 BLD-IND FINAL ACTION: Reject
(29.3.3.3)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-820

RECOMMENDATION: Reject the proposal so as to retain subsection 29.3.3.3 as the interior floor finish requirements were not inadvertently added to the Code, but were the result of Association Action and the related Standards Council decision.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-555-57a (Log #CC703).

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
HOLMES: The statement by the proponent not withstanding, the Association action in 1991, 1994, 1997, 2000, and 2003 for NFPA 101 (from which NFPA 5000, Chapter 29 was derived) upheld that Industrial Occupancies are exempt from floor finish requirements. The subject was deliberated by the TC in subsequent editions of the codes and the TC decided that there is no need to regulate floor finish in Industrial Occupancies. The statement in the codes that there are no requirements for floor finish in Industrial Occupancies was not inadvertent but purposeful. For the type of spaces, type of hazards, and geometry of industrial facilities, floor finish is not a significant contributor to the level of hazard or risk to occupants.

As indicated in the Committee Substantiation in Comment 5000-557a, there is no demonstrated hazard with the current requirements (No Requirements) and no justification to introduce a floor finish requirement for Industrial Occupancies.

5000-557 Log #409 BLD-IND FINAL ACTION: Reject
(29.3.3.3)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-820

RECOMMENDATION: Reject the Proposal

SUBSTANTIATION: Based on the TCC Action, the proposal must be rejected.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-555-57a (Log #CC703).

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
HOLMES: The statement by the proponent not withstanding, the Association action in 1991, 1994, 1997, 2000, and 2003 for NFPA 101 (from which NFPA 5000, Chapter 29 was derived) upheld that Industrial Occupancies are exempt from floor finish requirements. The subject was deliberated by the TC in subsequent editions of the codes and the TC decided that there is no need to regulate floor finish in Industrial Occupancies. The statement in the codes that there are no requirements for floor finish in Industrial Occupancies was not inadvertent but purposeful. For the type of spaces, type of hazards, and geometry of industrial facilities, floor finish is not a significant contributor to the level of hazard or risk to occupants.

As indicated in the Committee Substantiation in Comment 5000-557a, there is no demonstrated hazard with the current requirements (No Requirements) and no justification to introduce a floor finish requirement for Industrial Occupancies.

5000-557 Log #409 BLD-IND FINAL ACTION: Reject
(29.3.3.3)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-820

RECOMMENDATION: Reject the Proposal

SUBSTANTIATION: Based on the TCC Action, the proposal must be rejected.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-555-57a (Log #CC703).

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
HOLMES: The statement by the proponent not withstanding, the Association action in 1991, 1994, 1997, 2000, and 2003 for NFPA 101 (from which NFPA 5000, Chapter 29 was derived) upheld that Industrial Occupancies are exempt from floor finish requirements. The subject was deliberated by the TC in subsequent editions of the codes and the TC decided that there is no need to regulate floor finish in Industrial Occupancies. The statement in the codes that there are no requirements for floor finish in Industrial Occupancies was not inadvertent but purposeful. For the type of spaces, type of hazards, and geometry of industrial facilities, floor finish is not a significant contributor to the level of hazard or risk to occupants.

As indicated in the Committee Substantiation in Comment 5000-557a, there is no demonstrated hazard with the current requirements (No Requirements) and no justification to introduce a floor finish requirement for Industrial Occupancies.

5000-557 Log #409 BLD-IND FINAL ACTION: Reject
(29.3.3.3)
or 10.6.2 as appropriate. Once completeness with the entirety of 10.6 is required, it is unclear why it should be necessary to subsequently reference individual subsections thereof.

5000-557a Log #CC703 BLD-IND  FINAL ACTION: Accept
(29.3.3.3)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be modified to include adding the following text for completeness, otherwise ROP Proposal 5000-829 would direct that 30.8.3.3.3 have no requirements:

30.8.3.3 Interior Floor Finish.
30.8.3.3.1 Interior floor finish in exit enclosures and in exit access corridors shall be not less than Class II.
30.8.3.3.2 Interior floor finish in other areas shall not be required to comply with Section 10.6.

SUBMITTER: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

COMMENT ON PROPOSAL NO: 5000-820

RECOMMENDATION: 1. Revise 29.3.3.3 to read as follows:

29.3.3.3 Interior Floor Finish.
29.3.3.3.1 Interior floor finish shall comply with Section 10.6.
29.3.3.3.2 Interior floor finish shall comply with Section 10.6.
2. Revise section 30.3.3 to read as follows:

30.3.3 Interior Floor Finish.
30.3.3.2 Interior floor finish shall comply with Section 10.6.
30.3.3.4.1 Interior floor finish in exit enclosures and in exit access corridors shall be not less than Class II.
30.3.3.4.2 Interior floor finish in other areas shall not be required to comply with 10.6.1 or 10.6.2 as applicable Section 10.6.

SUBSTANTIATION: BLD-IND does not intend that all floor coverings be regulated. Traditional floor covering have not been regulated in Industrial occupancies. Impact of the proposed change on Industrial flooring coverings such as epoxy and other chemical reactant coatings is unknown. Furthermore, the committee notes that no demonstrated hazard with the current requirements has been indicated.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

HOLMES: The statement by the proponent not withstanding, the Association action in 1991, 1994, 1997, 2000, and 2003 for NFPA 101 (from which NFPA 5000, Chapter 29 was derived) upheld that Industrial Occupancies are exempt from floor finish requirements. The subject was deliberated by the TC in subsequent editions of the codes and the TC decided that there is no need to regulate floor finish in Industrial Occupancies. The statement in the codes that there are no requirements for floor finish in Industrial Occupancies was not inadvertent but purposeful. For the type of spaces, type of hazards, and geometry of industrial facilities, floor finish is not a significant contributor to the level of hazard or risk to occupants.

As indicated in the Committee Substantiation in Comment 5000-557a, there is no demonstrated hazard with the current requirements (No Requirements) and no justification to introduce a floor finish requirement for Industrial Occupancies.

COMMENT ON AFFIRMATIVE

SHAPIRO: The format in the proposal is confusing because the first section requires compliance with 10.6, then subsections seek compliance with 10.6.1 or 10.6.2 as appropriate. Once compliance with the entirety of 10.6 is required, it is unclear why it should be necessary to subsequently reference individual subsections thereof.

5000-559 Log #231 BLD-IND  FINAL ACTION: Reject
(29.3.5.1.1)

SUBMITTER: Wayne D. Holmes, HSB Professional Loss Control

COMMENT ON PROPOSAL NO: 5000-833

RECOMMENDATION: Delete proposed 29.3.5.1.1.

SUBSTANTIATION: Current NFPA 5000, paragraph 29.3.5.1.2 requires automatic sprinkler protection throughout all industrial occupancies (other than low hazard) exceeding 12,000 sq ft in fire area regardless of the type of operation. The proposed new 29.3.5.1.1 would result in a decrease in the threshold area requiring automatic sprinkler protection for woodworking operations to 2500 sq ft. There is no technical justification to require this decrease in sprinkler threshold for woodworking operation as opposed to other industrial operations that might be of equal or greater fire hazard. Further, the sprinkler requirement for woodworking operations proposed in new 29.3.5.1.1 conflicts with the sprinkler requirement for general (including "highly hazardous") industrial occupancies in existing 29.3.5.1.2.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee believes that the reduced threshold for requiring sprinkler protection for woodworking operations is justified considering the fire hazards associated with such operations. The proposed new section 29.3.5.1.1 also provides for consistency with NFPA 1.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-560 Log #148 BLD-IND  FINAL ACTION: Accept in Principle
(29.3.5.1.1 (New), 30.3.4.1(3), 30.3.5.1, 30.8.3.5.1, 31.6.1.1, 31.6.5.2, 34.3.2.1)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-823

RECOMMENDATION: Give consideration to Shapiro’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-563.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-563.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-561 Log #412 BLD-IND  FINAL ACTION: Reject
(30.3.3.3, 20.8.3.3.3)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-829

RECOMMENDATION: Reject the Proposal.

SUBSTANTIATION: Based on the TCC Action, the proposal must be rejected.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-557a (Log #CC703).

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 2 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

HOLMES: The statement by the proponent not withstanding, the Association action in 1991, 1994, 1997, 2000, and 2003 for NFPA 101 (from which NFPA 5000, Chapter 29 was derived) upheld that Storage Occupancies are exempt from floor finish requirements. The subject was deliberated by the TC in subsequent editions of the codes and the TC decided that there is no need to regulate floor finish in Storage Occupancies. The statement in the codes that there are no requirements for floor finish in Storage Occupancies was not inadvertent but purposeful. For the type of spaces, type of hazards, and geometry of storage facilities, floor finish is not a significant contributor to the level of hazard or risk to occupants.

As indicated in the Committee Substantiation in Comment 5000-557a, there is no demonstrated hazard with the current requirements (No Requirements) and no justification to introduce a floor finish requirement for Storage Occupancies.

COMMENT ON AFFIRMATIVE

SHAPIRO: The format in the proposal is confusing because the first section requires compliance with 10.6, then subsections seek compliance with 10.6.1 or 10.6.2 as appropriate. Once compliance with the entirety of 10.6 is required, it is unclear why it should be necessary to subsequently reference individual subsections thereof.
5000-562 Log #149 BLD-IND

FINAL ACTION: Reject

(30.3.3.3 and 30.8.3.3.3)

COMMITTEE STATEMENT: Technical Correlating Committee on Building Code

COMMITTEE MEETING ACTION: Rejected

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-557a (LC # C703).

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 24 Negative: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

HUMBLE: I am submitting a negative comment for ROC Ballot items 5000-182 and 5000-565.

It is the committee's understanding that sections 55.2.2.1.5 and 55.2.2.1 UF were not deleted. In addition, it is the committee's intent to require at least one manual fire alarm pull box.

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-562 Log #524 BLD-IND

FINAL ACTION: Accept in Principle

(30.3.5.1.1 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, but that the committee action be revised as follows in order to correlate with NFPA 1, UFC:

Part 1 of Committee Action: In lieu of action shown, revise to “See TCC notes and action on 5000-182.”

Part 2 of Committee Action: In lieu of action shown, revise to “See TCC notes and action on 5000-182.”

COMMITTEE MEETING ACTION: No change to committee action.

COMMITTEE STATEMENT: It is the committee's understanding that sections 55.2.2.1.5 and 55.2.2.1 UF were not deleted. In addition, it is the committee's intent to require at least one manual fire alarm pull box.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMITTEE STATEMENT: It is the committee’s understanding that sections 55.2.2.1.5 and 55.2.2.1 UF were not deleted. In addition, it is the committee’s intent to require at least one manual fire alarm pull box.

5000-563 Log #560 BLD-IND

FINAL ACTION: Accept

(30.3.4.1)

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-831.

RECOMMENDATION: Reconsider the original proposal:

30.3.5.1.1 Mini-Storage Facility. An automatic sprinkler system shall be installed throughout all mini-storage facilities greater than 2500 ft ² (232 m²).

SUBSTANTIATION: NFPA 1, UFC has accepted this proposed language and for correlation should be included in NFPA 5000. These facilities are of much greater hazard than normal storage occupancies as no one but the person placing the items in the storage unit know what is contained within them. There have been many instances where hazardous chemicals, drug labs, explosives and other items have been found in these occupancies. There have been incidents where fire fighters have been killed fighting fires in these occupancies. Due to the hazards encountered in these occupancies they need additional protection.

COMMITTEE MEETING ACTION: Accept in Principle

1. Add a definition of mini-storage building to read as follows: “Mini-Storage Building. A storage occupancy in which non-fire resistance rated partitions are used to subdivide the occupancy into individual storage units that are not owner occupied.”

2. Add annex material to the definition of mini storage building to read as follows:

Garage units that are primarily intended for vehicular storage as part of a multi-family development are not intended to be classified as mini-storage buildings.”

3. Accept the submitter’s recommendation and revise the term “facility” to read “building” in two places.

COMMITTEE STATEMENT: The committee prefers the term building rather than facility so as to clarify that mini-storage is intended to be a stand-alone building. The term was defined and is consistent with what is proposed for NFPA 1. See proposal 1-40 (Log #32) in the Annual 2005 ROP.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 19 Negative: 6

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

ALDERMAN: I agree with Mr. Klein’s comments.

BIRCHLER: I disagree with the need to have a more stringent area threshold for sprinklers in a mini-storage facility than other storage occupancies. A 12,000 sq ft threshold is more than adequate.

HOLMES: The definition proposed by the technical committee is too broad and would encompass storage occupancies other than those that are intended to be included as “mini-storage buildings.”

Public warehouses have storage units that are not owner occupied. In some cases, a public warehouse will have non-fire rated partitions to subdivide storage units. As such, these public warehouses would be included in the proposed definition of mini-storage buildings.

The characteristics of public warehouses are very different from mini-storage facilities or self-storage facilities. It was not the intent to include public warehouses in the definition of mini-storage buildings.

The currently proposed definition should be rejected. In future revisions of the code, the following definition might be proposed:

Mini-storage building: Structures with self-storage spaces designed and used for the purpose of renting or leasing individual storage space to tenants who have access to such space for the purpose of storing and removing personal property.

HUMBLE: I am submitting a negative comment for ROC Ballot items 5000-182 and 5000-565.

The proposal indicates intent to focus only for requirements for the installation of automatic sprinkler system in “mini-storage” facilities or buildings, but the definition is too broad as written. As defined the provisions would also apply to occupancies such as (examples) those shown below.
**Committee Statement:**

See Committee Action for Comment 5000-566.

**Ballot Results:**

Number Eligible to Vote: 29

Committee Meeting Action: Accept

Submitter:

5000-568 Log #151 BLD-IND

**Final Action:** Accept in Principle (30.8.1.1)

**Submitter:** Technical Correlating Committee on Building Code

**Comment on Proposal No:** 5000-842

**Recommendation:**

1. Encourage the work of the Task Group that is to be established to resolve the conflict.

2. Revise or clarify the committee statement that refers to this same proposal for further details. The TCC believes the reference should have been to Proposal 5000-843.

**Substantiation:**

See the above recommendation.

**Committee Meeting Action:** Accept in Principle

1. Revise section 30.8.3 to read as follows:

30.8.3 Protection

30.8.3.1 Protection of Vertical Openings.

(A) Vertical openings through floors in buildings four stories or more in height shall be enclosed with walls or partitions having a fire resistance rating of not less than 2 hours. [88A:3.6]

(B) For buildings less than four stories in height, the provisions, such as walls or partitions shall have a fire resistance rating of not less than 1 hour. [88A:3.6]

(C) Ramps in enclosed parking structures shall not be required to be enclosed when an approved, automatic sprinkler system is provided throughout the enclosed parking structure, in accordance with Section 55.3 [88A:3.6].

2. Add new annex material to read as follows:

A 30.8.3.1(E) It is common practice to construct a parking structure that consists of open parking levels aboveground meeting the opening requirements for an “open parking structure”, but also having enclosed parking levels below grade that would need to comply with the requirements for an “enclosed parking structure”. It is impractical to have enclosed ramps between the enclosed level(s) and the open level(s) of such a parking structure.

**Comment on Affirmative**

Shapiro: The NFPA Uniform Fire Code Committee reviewed BLD-IND’s action on this item at their ROC meeting and made additional modifications that should be incorporated into NFPA 5000. It is requested that NFPA staff convey a copy of the Uniform Fire Code Committee action on this item to the NFPA 5000 TCC for consideration and possible action to correlate the two codes. In addition, it is requested that NFPA staff process an informational ballot of the Uniform Fire Code Committee action through BLD-IND so that the position of BLD-IND on the proposed UFC revisions can be conveyed to the TCC to guide their decision on this matter.

**Klein:** Please register my vote as negative on these two code comments. Comment 5000-182 is a comment adding a definition for “Mini-Storage Building” and Comment 5000-565 will require all mini storage buildings over 2500 square feet to be sprinklered. I am certainly not against sprinklers, but the threshold for sprinklers in storage occupancies was established at 12,000 square feet in NFPA 5000 (as well as in other model building codes such as BOCA National & IBC) and the justification used to establish a lower sprinkler threshold for this new subclassification (mini-storage building) of a storage occupancy has not been justified. The only substantiation given was for correlation with the next edition of NFPA 1, which has added this definition and sprinkler requirement. I question whether NFPA 1, within its scope, has the authority to add such a definition or sprinkler requirement on this issue, but that is a subject for the NFPA 5000 TCC and NFPA 1 Committee to potentially iron out. Technically, based on this new definition being proposed/accepted in NFPA 5000, I believe it is vague enough to be made applicable to any storage use that the occupant might want. The substantiation of the proponent that the hazard in a mini-storage building is “...much greater...” than in any other type of multi-tenant storage building is also not substantiated by any fire data. If the 2500 square foot threshold is “reasonable” for a “mini-storage building”, then it should be “reasonable” for ALL storage uses. I would doubt that our Committee would have approved this lower sprinkler threshold for ALL storage uses. Therefore to apply a special sprinkler threshold only for mini-storage buildings is inappropriate at this time without fire data substantiating such a change in the Code.

**Skalko:** I agree with Holmes and Humble that the definition of “mini-storage building” is too broad.

**Comment on Affirmative**

Shapiro: The NFPA Uniform Fire Code Committee reviewed BLD-IND’s action on this item at their ROC meeting and made additional modifications that should be incorporated into NFPA 5000. It is requested that NFPA staff convey a copy of the Uniform Fire Code Committee action on this item to the NFPA 5000 TCC for consideration and possible action to correlate the two codes. In addition, it is requested that NFPA staff process an informational ballot of the Uniform Fire Code Committee action through BLD-IND so that the position of BLD-IND on the proposed UFC revisions can be conveyed to the TCC to guide their decision on this matter.

**Klein:** Please register my vote as negative on these two code comments. Comment 5000-182 is a comment adding a definition for “Mini-Storage Building” and Comment 5000-565 will require all mini storage buildings over 2500 square feet to be sprinklered. I am certainly not against sprinklers, but the threshold for sprinklers in storage occupancies was established at 12,000 square feet in NFPA 5000 (as well as in other model building codes such as BOCA National & IBC) and the justification used to establish a lower sprinkler threshold for this new subclassification (mini-storage building) of a storage occupancy has not been justified. The only substantiation given was for correlation with the next edition of NFPA 1, which has added this definition and sprinkler requirement. I question whether NFPA 1, within its scope, has the authority to add such a definition or sprinkler requirement on this issue, but that is a subject for the NFPA 5000 TCC and NFPA 1 Committee to potentially iron out. Technically, based on this new definition being proposed/accepted in NFPA 5000, I believe it is vague enough to be made applicable to any storage use that the occupant might want. The substantiation of the proponent that the hazard in a mini-storage building is “...much greater...” than in any other type of multi-tenant storage building is also not substantiated by any fire data. If the 2500 square foot threshold is “reasonable” for a “mini-storage building”, then it should be “reasonable” for ALL storage uses. I would doubt that our Committee would have approved this lower sprinkler threshold for ALL storage uses. Therefore to apply a special sprinkler threshold only for mini-storage buildings is inappropriate at this time without fire data substantiating such a change in the Code.

**Skalko:** I agree with Holmes and Humble that the definition of “mini-storage building” is too broad.

**Comment on Affirmative**

Shapiro: The NFPA Uniform Fire Code Committee reviewed BLD-IND’s action on this item at their ROC meeting and made additional modifications that should be incorporated into NFPA 5000. It is requested that NFPA staff convey a copy of the Uniform Fire Code Committee action on this item to the NFPA 5000 TCC for consideration and possible action to correlate the two codes. In addition, it is requested that NFPA staff process an informational ballot of the Uniform Fire Code Committee action through BLD-IND so that the position of BLD-IND on the proposed UFC revisions can be conveyed to the TCC to guide their decision on this matter.

**Klein:** Please register my vote as negative on these two code comments. Comment 5000-182 is a comment adding a definition for “Mini-Storage Building” and Comment 5000-565 will require all mini storage buildings over 2500 square feet to be sprinklered. I am certainly not against sprinklers, but the threshold for sprinklers in storage occupancies was established at 12,000 square feet in NFPA 5000 (as well as in other model building codes such as BOCA National & IBC) and the justification used to establish a lower sprinkler threshold for this new subclassification (mini-storage building) of a storage occupancy has not been justified. The only substantiation given was for correlation with the next edition of NFPA 1, which has added this definition and sprinkler requirement. I question whether NFPA 1, within its scope, has the authority to add such a definition or sprinkler requirement on this issue, but that is a subject for the NFPA 5000 TCC and NFPA 1 Committee to potentially iron out. Technically, based on this new definition being proposed/accepted in NFPA 5000, I believe it is vague enough to be made applicable to any storage use that the occupant might want. The substantiation of the proponent that the hazard in a mini-storage building is “...much greater...” than in any other type of multi-tenant storage building is also not substantiated by any fire data. If the 2500 square foot threshold is “reasonable” for a “mini-storage building”, then it should be “reasonable” for ALL storage uses. I would doubt that our Committee would have approved this lower sprinkler threshold for ALL storage uses. Therefore to apply a special sprinkler threshold only for mini-storage buildings is inappropriate at this time without fire data substantiating such a change in the Code.

**Skalko:** I agree with Holmes and Humble that the definition of “mini-storage building” is too broad.

**Comment on Affirmative**

Shapiro: The NFPA Uniform Fire Code Committee reviewed BLD-IND’s action on this item at their ROC meeting and made additional modifications that should be incorporated into NFPA 5000. It is requested that NFPA staff convey a copy of the Uniform Fire Code Committee action on this item to the NFPA 5000 TCC for consideration and possible action to correlate the two codes. In addition, it is requested that NFPA staff process an informational ballot of the Uniform Fire Code Committee action through BLD-IND so that the position of BLD-IND on the proposed UFC revisions can be conveyed to the TCC to guide their decision on this matter.
BALLOT RESULTS: sections 55.2.2.1.5 and 55.2.2.1.6 were not deleted. In addition, it is the committee’s understanding that sections 55.2.2.1.5 and 55.2.2.1.6 were not deleted. In addition, it is the committee’s intent to require at least one manual fire alarm pull box.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAI, WREN

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: It is the committee’s understanding that sections 55.2.2.1.5 and 55.2.2.1.6 were not deleted. In addition, it is the committee’s intent to require at least one manual fire alarm pull box.

5000-573 Log #152 BLD-IND FINAL ACTION: Accept in Principle (31.10 (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-850
RECOMMENDATION: Give consideration to Farney’s and Holmes’ explanation of negative so as to make any necessary changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
1. Revise section 29.3.5.1.1 to read as follows:
29.3.5.1.1* Power Generation Buildings. In lieu of providing sprinkler protection, this section will not be required to be sprinklered throughout, provided that the special hazards are protected by approved automatic suppression systems in accordance with NFPA 12, NFPA 13, NFPA 15, NFPA 16, NFPA 17, NFPA 750 or NFPA 2001.
A.29.3.5.1.1 See NFPA 850, Recommended Practice for Electric Generating Plants and High Voltage Direct Current Converter Stations for protection recommendations.
2. Revise section 29.2.6.1.1 to read as follows:
29.2.6.1.1* Power Generation Buildings. Buildings of Type I or Type II construction used exclusively for the enclosure of steam generators, steam turbines, gas turbines, heat recovery generators and flue gas treatment equipment shall not be required to be sprinklered throughout, provided that the special hazards are protected by approved automatic suppression systems in accordance with NFPA 12, NFPA 13, NFPA 15, NFPA 16, NFPA 17, NFPA 750 or NFPA 2001, shall be permitted to have a maximum travel distance of 400 ft (122 m).
A.29.2.6.1 See NFPA 850, Recommended Practice for Electric Generating Plants and High Voltage Direct Current Converter Stations for protection recommendations.
COMMITTEE STATEMENT: This clarifies the committee’s intent that in certain power generation facilities only the special hazards are required to be sprinklered in order to consider the building as fully sprinklered.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAI, WREN

5000-573a Log #CC10 BLD-STR FINAL ACTION: Reject (32.8.3.4 and 2.3.29)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE.” Revise 32.3.1 as follows:
“32.3.1 General. Tents, other than private party and camping tents under 400 sq. ft shall comply with the requirements of Section 32.3.1 and 16.4.8 and 16.4.9 as applicable.”

The TCC action is consistent with its action on Comment 5000-429. Bleacher and grandstand configurations positioned under the tent structure are still regulated by Chapter 16.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-853
RECOMMENDATION: Insert new language to 32.8.3.4(7):
32.8.3.4 (7) ANSI/NSPI-7, Suction Entrapment Avoidance Standard for Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins. Add the following to 2.3.29:

SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-157
RECOMMENDATION: This standard addresses a critical life safety issue for swimming pools, wading pools, spas, hot tubs and catch basins by providing requirements that safeguard against suction entrapment.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since ANSI/NSPI-7-7-05 will not be available until June 2005. However, if ANSI/NSPI-7-05 was published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee would be in favor of this being overturned at either the Association Annual Meeting or the Standards Council Meeting.

NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-573 Log #294 BLD-STR FINAL ACTION: Reject (32.6)

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMENT ON PROPOSAL NO: 5000-861
RECOMMENDATION: Proposal 5000-861 as submitted should have been accepted.

SUBSTANTIATION: The reference to UL 48 in NFPA 70 is in Annex A, which is intended for informational purposes only. NFPA 70 does not specify standards in the body of the code. This is the appropriate code to place the standard in the body as a requirement rather than an informational Annex in the NEC.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The primary document on electrical installations is the NFPA 70. Since this document is only referenced in Annex A of NFPA 70, this Technical Committee does not feel compelled to reference this document directly in Chapter 32.

NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-573 Log #593 BLD-IND FINAL ACTION: Reject (30.8.3.4.2)

SUBMITTER: J. Jeffrey Moore, Hughes Associates, Inc.

COMMENT ON PROPOSAL NO: 5000-844
RECOMMENDATION: Accept Proposal 5000-844.

SUBSTANTIATION: This comment is based on the work of a task group of the Technical Committee on Protected Premises Fire Alarm Systems. The requirement in NFPA 72, 6.8.5.1.2 for a single manual fire alarm box is a performance requirement of this Standard to provide a manual means to activate the system, regardless of the occupancy classification of the protected premise. This is to provide a means to activate the alarm should the system be down for testing or maintenance. This requirement is within the purview of the Signaling System and Protection for the Protection of Life and Property project. The original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards.

COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: It is the committee’s understanding that sections 55.2.2.1.5 and 55.2.2.1.6 were not deleted. In addition, it is the committee’s intent to require at least one manual fire alarm pull box.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAI, WREN

Report on Comments — Copyright, NFPA NFPA 5000
SUBMITTER: Technical Correlating Committee on Building Code, James Burns

COMMENT ON PROPOSAL NO: 5000-862

RECOMMENDATION: Give consideration to Fluer’s, Humble’s, Klein’s, Lonabaugh’s, McLaughlin’s and Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement for Comment 5000-578.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-578.

BALLOT RESULTS: See my Explanation of Negative on Comment 5000-578.

SKALKO: See my Explanation of Negative on Comment 5000-578.

SUBMITTER: Robert J. Wills, American Iron and Steel Institute

REPORT ON COMMENTS — Copyright, NFPA

5000-574 Log #154 BLD-IND

FINAL ACTION: Accept in Principle

5000-575 Log #155 BLD-IND

FINAL ACTION: Accept in Principle

5000-576 Log #492 BLD-IND

FINAL ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMON OMISSION: No: 5000-862

RECOMMENDATION: Give consideration to Fluer’s, Humble’s, Klein’s, Lonabaugh’s, and Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement for Comment 5000-580.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-580.

BALLOT RESULTS: Affirmative: 24 Negative: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE: SKALKO: See my Explanation of Negative on Comment 5000-578.

BALLOT RESULTS: Affirmative: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE: SKALKO: See my Explanation of Negative on Comment 5000-578.

The proposal being considered here would require 4 hour column and 2 hour floors for all high rise buildings above 420'. This is beyond what any model code required and even exceeds the UBC requirements for the rating of the column. No documentation was submitted to support this increase beyond what any code requires, much less for increasing the NFPA 5000 to this level. In addition, these Logs would require 3 hour columns and 2 hour floors for all high rise buildings between 180' and 420' where the code currently permits 2 hour columns. This would exceed the IBC and the BOCA code provisions. The requirements in 33.1.3.2 were the result of careful consideration by the NFPA Structures and Construction TC. The TC had a public proposal to reflect the IBC requirement. The TC considered the high rise fire record, examined the proposals and reached a decision that was crafted to work consistently with the height and area table of this code. Along with the reworked 33.1.3.2, the TC looked at standpipe water pressure limits and created a new limit on height for Type 1-332 construction (420') where no limit previously existed. In addition, as a part of this change, the TC modified the floor ratings for Type 1-422 construction. This was all part of a well thought out package. Nothing substantive has been submitted to justify changing this requirement other than “the 1997 UBC didn’t allow it”. In addition, the NFPA Building Construction committee has now supported proposals that would include the structural frame provisions in the next edition of NFPA 5000. Consequently, the 2006 NFPA 5000 would require 4 hour columns and 4 hour floor girders with 2 hour floor assemblies.

2. The proposals limit the “low” high rise modification (ie. Buildings less than 120' in height) in Section 33.1.3.3.

In the development of NFPA 5000, there were proposals to accept the requirement from the IBC, which was originally taken from the BOCA code. The NFPA Structures and Construction committee considered that proposal, examined the fire record and took deliberate action to modify the proposal and strengthen the IBC requirement by limiting the height to 120' and not reducing the rating for the column. By accepting this strengthened provision, the BLD-IND TC recognized that the one hour floor assemblies were sufficient for low fuel loads in these occupancies and the increase in column ratings to 2 hours provided a sufficient additional level of safety. Section 33.1.3.3 represents a consensus decision reached by the committee after examining the fire record and the model building codes. The provision was crafted to work with the high rise provisions with Table 7.4.1. Nothing substantive has been submitted to justify changing this requirement other than “the 1997 UBC didn’t allow it”. In addition, based on the action proposed recently by the NFPA Building and Construction committee, now the structural frame requirement will be added to floor consideration. Now that the two hour column rating will drive the rating of the girders in the floor to 2 hours as well further strengthening the requirement beyond what was shown in the 2003 NFPA 5000.

In summary, these proposals have no justification other than a desire to reflect the 1997 UBC. However, this process wasn’t created so we can replicate the 1997 UBC. In this cycle of NFPA 5000, there was considerable consideration of the TOC modifications resulted in the allowances in 33.1.3.2 and 33.1.3.3. They were not created to mimic the IBC and instead both sections are unique and more conservative that the IBC. In addition, both sections were crafted as a package to work consistently with other sections of the code including the height and area table and the TOC table. Nothing has been submitted to justify returning to the UBC provisions. Additionally since height and area and TOC sections of NFPA 5000 are different than the UBC, the proponents intent to return to the UBC is flawed. As a result, in some instances, (columns and girders for buildings above 420') the Logs proposed here are more restrictive than the UBC or any other national model code (once again without justification).
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-578.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-578.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 24 Negative: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
SKALKO: See my Explanation of Negative on Comment 5000-578.

COMMITTEE STATEMENT:
NUMBER ELIGIBLE TO VOTE: 29

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-578.

COMMITTEE MEETING ACTION: Accept
See Committee Action and Statement for Comment 5000-580.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-580.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 24 Negative: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
SKALKO: See my Explanation of Negative on Comment 5000-578.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-580.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-580.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 24 Negative: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
SKALKO: See my Explanation of Negative on Comment 5000-578.
COMMITTEE STATEMENT:
BLD-MEA. See Comment 5000-156b.

prejudice and defers all action on the subject introduced by this comment to

COMMITTEE STATEMENT:

BALLOT NOT RETURNED:

BALLOT RESULTS:
NUMBER ELIGIBLE TO VOTE: 29
reasons for negative votes on proposal 5000-863 as documented in the ROP.

EXPLANATION OF NEGATIVE:

5000-579 Log #555 BLD-IND FINAL ACTION: Accept in Principle
(33.1.3)


COMMENT ON PROPOSAL NO: 5000-862

RECOMMENDATION: Reject the proposal.

SUBSTANTIATION: I agree with some of the opposition comments expressed in the negative ballots of other committee members.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-579.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-579.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
SKALKO: See my Explanation of Negative on Comment 5000-578.

5000-580 Log #557 BLD-IND FINAL ACTION: Accept
(33.1.3)


COMMENT ON PROPOSAL NO: 5000-863

RECOMMENDATION: Reject the proposal.

SUBSTANTIATION: I agree with some of the opposition comments expressed in the negative ballots of other committee members.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: The committee notes that it supports the reasons for negative votes on proposal 5000-863 as documented in the ROP.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Negative: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:
SKALKO: See my Explanation of Negative on Comment 5000-578.

5000-581 Log #156a BLD-FIR FINAL ACTION: Reject
(33.2.3)

TCC Action: The Technical Correlating Committee (TCC) notes that the reference in the Committee Statement should be to Comment 5000-582, not 156b.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-865

RECOMMENDATION: Give considered to the recommendation in the committee statement and the proposal be referred for review by the two committees noted so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee rejects this comment without prejudice and defers all action on the subject introduced by this comment to BLD-MEA. See Comment 5000-156b.
COMMITTEE STATEMENT: This meets the intent of the submitter, and provides for correlation with NFPA 1.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-586 Log #487 BLD-IND FINAL ACTION: Accept in Principle (33.2.6)


COMMENT ON PROPOSAL NO: 5000-870
RECOMMENDATION: Delete the proposed change.

Elevator hoistway separation shall not be required in health care and ambulatory health care occupancies where elevators serving the floor are located in at least two smoke compartments.

SUBSTANTIATION: The change is not consistent with good fire protection or the defend-in-place philosophy for health care occupancies and should not be incorporated into the code. The defend-in-place provisions of the codes acknowledge that evacuation is not practical and therefore occupants will be moved from one area to another. Another, the LSC has numerous provisions addressing staff response to fires. In today’s health-care environment the movement of patients on a floor from one side of a barrier to another cannot be readily accomplished by the staff on a single floor, so other staffs from non-fire floors are used in fire emergencies. An elevator open to a fire compartment on one floor will allow the movement of smoke to other floors due to the pressures created by the fire (with or without sprinklers) the building stack effect, and elevator piston effect. Movement of smoke to other floors while staff has been called to assist in movement patients on the fire floor will result in a greater life risk. This code change should therefore result in evaluations by inspectors of the ability to provide staff for patient movement on all floors.

Elevators in healthcare occupancies take several forms. First, a single elevator in a single hoistway that would allow smoke spread to other floor.

Second, a single elevator in a single shaft with door openings at the front and rear of the car that would allow smoke spread to other floors and to separate smoke compartments on the same floor via the two doors on the same level.

Third, two or more elevators in the same hoistway, but in different smoke compartments on each level these could spread the smoke to other floors and to the other side of the smoke barrier on the same floor. This is likely to be the most common configuration created by the proposed change. A smoke barrier wall and door provide separation on a floor in a hallway with two or more elevators that are in common shaft with an elevator door opening in each compartment that effectively negates the effectiveness of the smoke barrier.

For all occupancy types the change fails to recognize that the isolation of the hoistway on a floor to provide a complete smoke barrier is critical to the safety of occupants left in place during a fire and this change does not address all elevators on floors.

COMMITTEE MEETING ACTION: Accept in Principle

Reject proposal proposal 5000-870.

COMMITTEE STATEMENT: Through their action on comment 5000-598, BLD-IND recommends that this proposed section 33.2.6 on elevator lobbies be deleted. Therefore, no need exists for the proposed exception introduced in proposal 5000-870.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-589a Log #CC501 BLD-AXM FINAL ACTION: Accept in Principle (33.2.6)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT to “REJECT - The proposed text is not needed as there will not be a new 33.2.6 because Comment 5000-598 rejects ROP Proposal 5000-873.”

SUBMITTER: Technical Committee on Assembly Occupancies and Membrane Structures

COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Further revise the text proposed as a new 33.2.6 by BLD-IND’s action on Proposal 5000-873 by adding an exemption to read:

Elevator hoistway separations shall not be required in assembly occupancies. This is consistent with work done by Bukowski at NIST and per history in GSA buildings. The elevator is not part of the means of egress. See Comment 5000-452a.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-589 Log #CC501 BLD-AXM FINAL ACTION: Reject (33.2.6)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT to “REJECT The substantiation relied upon by IND to accept this comment is contrary to NFPA 5000:4.4.6.”


COMMENT ON PROPOSAL NO: 5000-871
RECOMMENDATION: Reject the proposal.

SUBSTANTIATION: It is not appropriate or justified to mandate that a non-required smoke control system must comply with NFPA 92A. If an owner chooses to voluntarily exceed the minimum requirements of NFPA 5000 by providing some degree of smoke management, that should be permitted without forcing complete compliance with NFPA 92A.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-589 Log #558 BLD-IND FINAL ACTION: Accept in Principle (33.2.6)


COMMENT ON PROPOSAL NO: 5000-872
RECOMMENDATION: Reject the proposal.

SUBSTANTIATION: I agree with Mr. Klein’s negative ballot comments. The proposed addition of smoke barriers for elevator hoistways has not been substantiated for sprinklered buildings. The proponent’s substantiation relies in part on fire data from non-sprinklered structures, and there is no correlation in the data between smoke migration in sprinklered building fires and degree of property damage, injuries or life loss.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-589 Log #556 BLD-IND FINAL ACTION: Accept


COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Reject the proposal.

SUBSTANTIATION: The proposed addition of smoke barriers for elevator hoistways has not been substantiated for sprinklered buildings. The proponent’s substantiation relies in part on fire data from non-sprinklered structures, and there is no correlation in the data between smoke migration in sprinklered building fires and degree of property damage, injuries or life loss.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-589 Log #556 BLD-IND FINAL ACTION: Accept

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT to “REJECT - The proposed text is not needed as there will not be a new 33.2.6 because Comment 5000-598 rejects ROP Proposal 5000-873.”

SUBMITTER: Technical Committee on Detention and Correctional Occupancies

COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Further revise the text proposed as a new 33.2.6 by BLD-IND’s action on Proposal 5000-873 by adding an exemption to read:

Elevator hoistway separations shall not be required in assembly occupancies.

SUBSTANTIATION: Assembly occupancies subject to the provisions of Section 33.2 will be in fully sprinklered buildings. In sprinklered buildings there is no need for elevator separation. This is consistent with work done by Bukowski at NIST and per history in GSA buildings. The elevator is not part of the means of egress. See Comment 5000-452a.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT to “REJECT - The proposed text is not needed as there will not be a new 33.2.6 because Comment 5000-598 rejects ROP Proposal 5000-873.”

SUBMITTER: Technical Committee on Detention and Correctional Occupancies

COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Further revise the text proposed as a new 33.2.6 by BLD-IND’s action on Proposal 5000-873 by adding an exemption to read:

Elevator hoistway separations shall not be required in detention and correctional occupancies.
COMMITTEE STATEMENT: Detention and correctional occupancies subject to the provisions of Section 33.2 will be in fully sprinklered buildings. In sprinklered buildings there is no need for elevator separation. This is consistent with work done by Bukowski at NIST and per history in GSA buildings. The elevator is not part of the means of egress. See Comment 5000-480d.

Detention and correctional occupancies need to avoid the use of swinging doors as such doors can be used as weapons by the residents. Rather, sliding doors are used. It is not practical to install and maintain fire-rated and smoke-resisting sliding doors. The requirement for self-closers or automatic closers creates operational difficulties in detention and correctional occupancies, where security is paramount. The requirement for elevator hoistway separations will normally translate into adding doors to separate the elevator lobby from the remainder of the floor. The addition of any doors not needed for security introduces supervision problems for staff.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 13
BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-590 Log #159a BLD-AXM FINAL ACTION: Reject (33.2.6 (New))

5000-590 Log #159b BLD-HEA FINAL ACTION: Reject (33.2.6 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT IN PRINCIPLE to “REJECT - The proposed text is not needed as there will not be a new 33.2.6 because Comment 5000-598 rejects ROP Proposal 5000-873.”

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
See Comment 5000-589a and 5000-452a.
COMMITTEE STATEMENT: The action on the referenced comments should meet the submitter’s intent.
NUMBER ELIGIBLE TO VOTE: 30
BALLOT RESULTS: Affirmative: 24
BALLOT NOT RETURNED: 6 BACON, BARTLETT, FITCH, PERKINS, PRITCHETT, WERTHEIMER

5000-591 Log #159b BLD-RES FINAL ACTION: Reject (33.2.6 (New))

5000-592 Log #159c BLD-END FINAL ACTION: Accept in Principle (33.2.6 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
See Comments 5000-589b and 5000-480d.
COMMITTEE STATEMENT: The action on the referenced comments take the needed actions on elevator hoistway separations for high-rise detention and correctional occupancies.
NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 13
BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

5000-593 Log #159d BLD-BEAR FINAL ACTION: Accept in Principle (33.2.6 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No further action needed by BLD-END.
COMMITTEE STATEMENT: New educational occupancies in high-rise portions of high-rise buildings should be afforded separated elevator lobbies.
NUMBER ELIGIBLE TO VOTE: 12
BALLOT RESULTS: Affirmative: 8
BALLOT NOT RETURNED: 4 BARTLETT, ONEISOM, SINSIGALL, WARBURTON

5000-594 Log #159e BLD-RES FINAL ACTION: Accept in Principle (33.2.6 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT IN PRINCIPLE to “REJECT: The proposed text is not needed as there will not be a new 33.2.6 because Comment 5000-598 rejects ROP Proposal 5000-873.”

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
Retain the acceptance of ROP Proposal 5000-593, and revise the action on ROP Proposal 500-873 to incorporate the health care and ambulatory health care occupancies exemption as follows by adding a 33.2.6.4 as follows: 33.2.6.4 The elevator hoistway separation requirements of 33.2.6 shall not apply in health care and ambulatory health care occupancies where elevators serving the floor are located in at least two smoke compartments.
COMMITTEE STATEMENT: The action recomforms the ROP action by BLD-HEA on Proposal 5000-870.
NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7 BROOKS, FISHBECk, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-595 Log #159f BLD-RES FINAL ACTION: Reject (33.2.6 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from ACCEPT IN PRINCIPLE to “REJECT - The proposed text is not needed as there will not be a new 33.2.6 because Comment 5000-598 rejects ROP Proposal 5000-873.”

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
Review 24.4.2.2 and add a new 24.4.2.3 as follows:
24.4.2 High-Rise Buildings.
24.4.2.1 High-rise buildings shall comply with Chapter 33 as modified by 24.4.2.2.
24.4.2.2 High-rise buildings shall not be required to comply with 33.2.6.
24.4.2.3 High-rise buildings shall not be required to comply with 33.2.6.
COMMITTEE STATEMENT: The committee action adds exemptions to the proposed elevator-lobby requirements in Chapter 33 for high-rise hotels and dormitories, and high-rise apartment buildings. Such residential occupancies are already provided with sufficient compartmentation (guest room to guest room or apartment unit to apartment unit separation, corridor separation), and no data has been provided to substantiate the proposed requirements. In addition, all new high-rise buildings must be provided with automatic sprinkler systems.
NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM
EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-596 Log #159g BLD-BCF FINAL ACTION: Accept in Principle (33.2.6 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action.
COMMITTEE STATEMENT: No action is necessary because Chapter 26 does not reference Chapter 33 for high-rise buildings. The committee notes this might be an oversight and intends to reassess this omission during the next code development cycle.
NUMBER ELIGIBLE TO VOTE: 13
COMMITTEE STATEMENT: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
1. Revise 33.2.6 as modified by proposal 5000-873 to read as follows:
33.2.6 Elevator Hoistway Separations. Unless otherwise specified in Chapters 12 through 42, elevator hoistways shall be separated from the remainder of the building, including corridors, by smoke barriers complying with Section 8.5 and 8.6 with self-closing or automatic closing doors.
2. Revise 27.4.2 to read as follows:
27.4.2 High-Rise Buildings.
27.4.2.1 High-rise buildings shall comply with the automatic sprinkler requirements of 33.2.2(A).
27.4.2.2 The elevator hoistway separation requirements of 33.2.6 shall not apply.
3. Revise 28.4.2 to read as follows:
28.4.2 High-Rise Buildings.
28.4.2.1 High-rise buildings shall comply with chapter 33.
28.4.2.2 The elevator hoistway separation requirements of 33.2.6 shall not apply.

COMMITTEE STATEMENT: Insufficient technical justification has been provided for the need to require smoke barriers for elevator hoistways in buildings protected with sprinkler systems. The substantiation for proposals 5000-872 and 5000-873 rely in part on fire data from non-sprinklered buildings, and includes no instances of failures where sprinklers are present. Current provisions rely on more than one safeguard for protection, and the need for additional protection in the form of smoke barriers is not warranted.

NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 13 Negative: 1 Abstain: 1
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

EXPLANATION OF NEGATIVE:
GAUVIN: NEMA agrees with the fire and life safety concerns raised by Mr. Thornberry regard the exemption of elevator lobby separation requirements in high rise buildings protected with sprinkler systems. The substantiation for proposals 5000-872 and 5000-873 rely in part on fire data from non-sprinklered buildings, and includes no instances of failures where sprinklers are present. Current provisions rely on more than one safeguard for protection, and the need for additional protection in the form of smoke barriers is not warranted.

EXPLANATION OF ABSTENTION:
THORNBERRY: I have voted to abstain on this Comment since I am a special expert on the Technical Committee and I have clients who may have specific interest in this Comment. Therefore, I am required by the NFPA Regulations Governing Committee Projects to abstain from voting.
I also would like to offer the following comments:
If I voted in favor of this recommendation, I would vote negative to reject it. I do not agree with the Committee Action to specifically exempt high rise buildings from the elevator hoistway separation requirements for both office and mercantile occupancies. This is in direct conflict with the Technical Committee on Smoke Storage, and Miscellaneous Occupancies which voted to require the elevator hoistway separation requirements for all high rise buildings under their jurisdiction. I can not agree with the Committee Statement that insufficient technical justification was provided for Proposal 5000-873 which was thoroughly discussed at the BLD-IND TC ROP meeting. Also see my comments on Comment 101-202.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-873
RECOMMENDATION: Review the basis of this proposal and Proposal 5000-872 dealing with elevator lobbies and the separation of elevator hoistways.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-598.

COMMITTEE STATEMENT: The committee recommends rejection of proposal 5000-873 as indicated in the committee action and statement to comment 5000-598.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-598.
submitted by the proponent to substantiate this change in the standard. Chapter 33. High-rise Buildings currently does not require the installation of a smoke control system and therefore a reference to Section 55.7 is not necessary. In addition, such a reference will only lead to confusion to the user of the code.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-587.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Lawrence G. Perry, AIA / Rep. BOMA International

COMMENT ON PROPOSAL NO: 5000-873

RECOMMENDATION: Delete the proposed new text in its’ entirety.

SUBSTANTIATION: I concur with the negative ballot comments of Messrs. Klein and Shapiro. The TC notes only that the ‘overall intent is to limit the vertical spread for the products of combustion through elevator shafts.’ The committee provides no justification as to where current provisions have failed to perform adequately in sprinkled high-rise buildings. As noted in the TC substantiation, a similar proposal was deleted via appeal in the last cycle. While the issue of notifying the affected occupancy TC’s has been addressed (although belatedly, by the TCC comment), there is still a total lack of technical substantiation for the change offered by the TC.

COMMITTEE MEETING ACTION: Accept in Principle

The committee recommends rejection of proposal 5000-873 as indicated in the committee action and statement to comment 5000-598.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-598.

COMMITTEE MEETING ACTION: Accept in Principle


COMMENT ON PROPOSAL NO: 5000-882

RECOMMENDATION: Reject the proposal.

SUBSTANTIATION: The committee action needs to be clarified with respect to application of the specified amounts to storage, use-closed and use-open. It is not adequate to simply state a single MAQ. In addition, it is noted that NFPA 30 ties the quantity limits in 7.5.4.1 to numerous controls, such as those in 7.3.7, which requires that liquids at or above their flashpoints be kept in closed vessels when not actually in use. Somewhere, there needs to be a way of qualifying the limitations on the industrial quantities that have been proposed.

COMMITTEE MEETING ACTION: Accept in Principle

Revise 34.1.3.3.3 as indicated in the preprint of chapter 34 on page 5000-519 of the ROP to read as indicated below. Remainer of section 34.1.3.3.3 to read as indicated in the preprint.

“34.1.3.3 Maximum Allowable Quantities of Flammable and Combustible Liquids in Industrial Occupancies. The maximum allowable quantity of flammable and combustible liquids in storage or closed use combined in industrial occupancies...”

COMMITTEE STATEMENT: This action meets the intent of the submitter, and clarifies the committee’s position.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMITTEE MEETING ACTION: Reject

SUBMITTER: Ben Greene, Uniform Fire Code Association

COMMENT ON PROPOSAL NO: 5000-880

RECOMMENDATION: The Uniform Fire Code Association Code Committee requests the committee to reconsider the acceptance of this proposal. We request you leave the language in the current edition of 5000 as is.

SUBSTANTIATION: The current language in NFPA 5000 needs to remain the same. We concur with the reasoning in the explanation of negative.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee reaffirms its action on proposal 5000-880 and notes that no new information was provided by the submitter.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, but that the committee action be revised as follows to agree with Shapiro’s comment on affirmative: “combustible liquids in storage or closed use combined in industrial occupancies...”


COMMENT ON PROPOSAL NO: 5000-883

RECOMMENDATION: Agree with Shapiro’s comment.

SUBSTANTIATION: The committee provides no justification as to where current provisions have failed to perform adequately in sprinkled high-rise buildings. As noted in the TC substantiation, a similar proposal was deleted via appeal in the last cycle. While the issue of notifying the affected occupancy TC’s has been addressed (although belatedly, by the TCC comment), there is still a total lack of technical substantiation for the change offered by the TC.

COMMITTEE MEETING ACTION: Accept in Principle

SUBSTANTIATION: See Committee Action and Statement for Comment 5000-601.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-882

RECOMMENDATION: Give consideration to Krause’s, O’Ridill’s and Tabar’s explanation of negative and Shapiro’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement for Comment 5000-602.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-602.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-604 Log #161 BLD-IND FINAL ACTION: Accept in Principle

(34.1.1(14))

5000-604 Log #161 BLD-IND FINAL ACTION: Accept in Principle

(34.1.1(14) Exception (New) )

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-882

RECOMMENDATION: Give consideration to Krause’s, O’Ridill’s and Tabar’s explanation of negative and Shapiro’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement for Comment 5000-601.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-601.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 24 Abstain: 1

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF ABSTENTION: MCLAUGHLIN: I am abstaining because I have a client, other than the organization I represent on the Committee, who may be impacted.

5000-605 Log #439 BLD-IND FINAL ACTION: Reject

(34.1.1(8))

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-883

RECOMMENDATION: Deleted text:

“TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, but that the committee action be revised as follows to agree with Shapiro’s comment on affirmative: “combustible liquids in storage or closed use combined in industrial occupancies...”

COMMITTEE STATEMENT: This action meets the intent of the submitter, and clarifies the committee’s position.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMENT ON AFFIRMATIVE

SHAPIRO: According to my notes from the ROC meeting, the action of the technical committee was to add “in storage and use combined” as opposed to “storage or use combined.” Use of “or” rather than “and” is incorrect with respect to the intent of the change, which was to regulate the combination of storage and use, and this error should be corrected editorially.

5000-605 Log #464 BLD-IND FINAL ACTION: Reject

(34.1.1(14))

5000-605 Log #476 BLD-IND FINAL ACTION: Reject

(34.1.1(8))

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-883

RECOMMENDATION: Deleted text:

“TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, but that the committee action be revised as follows to agree with Shapiro’s comment on affirmative: “combustible liquids in storage or closed use combined in industrial occupancies...”

COMMITTEE STATEMENT: This action meets the intent of the submitter, and clarifies the committee’s position.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMENT ON AFFIRMATIVE

SHAPIRO: According to my notes from the ROC meeting, the action of the technical committee was to add “in storage and use combined” as opposed to “storage or use combined.” Use of “or” rather than “and” is incorrect with respect to the intent of the change, which was to regulate the combination of storage and use, and this error should be corrected editorially.

5000-605 Log #464 BLD-IND FINAL ACTION: Reject

(34.1.1(14))

5000-605 Log #476 BLD-IND FINAL ACTION: Reject

(34.1.1(8))

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-883

RECOMMENDATION: Deleted text:

“TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, but that the committee action be revised as follows to agree with Shapiro’s comment on affirmative: “combustible liquids in storage or closed use combined in industrial occupancies...”

COMMITTEE STATEMENT: This action meets the intent of the submitter, and clarifies the committee’s position.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMENT ON AFFIRMATIVE

SHAPIRO: According to my notes from the ROC meeting, the action of the technical committee was to add “in storage and use combined” as opposed to “storage or use combined.” Use of “or” rather than “and” is incorrect with respect to the intent of the change, which was to regulate the combination of storage and use, and this error should be corrected editorially.
Submission: Technical Committee on Emergency Power Supplies

Proposal No.: 5000-884

Recommendation: Reconsider and accept the proposal.

Add a new Section 34.1.2 to read as follows:

34.1.2 Fuel Storage for On-Site Use and Consumption. The requirements of this section shall not apply to any Liquid Fuel that is stored in a building or portion thereof for use and consumption on the premises in a stationary internal combustion engine(s) or turbines. The quantity of fuel required (duration $x$ fuel consumption rate) must be sufficient to supply the individual needs of the occupancy.

Such use shall meet the requirements of one or more of the following, as applicable:

1. NFPA 110, Standard for Emergency and Standby Power Systems
2. NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
3. NFPA 30, Flammable and Combustible Liquids Code
4. NFPA 99, Standard for Health Care Facilities
5. NFPA 20, Standard for Installation and Use of Fire Pumps

Modify Footnote “c” in Table 34.1.3.1 to exempt stationary internal combustion engines or turbines used to provide electrical power.

Substantiation: This approach provides comprehensive requirements for storage of fuel inside buildings where the fuel is used for boilers, air heaters, water heaters, fire pumps, and emergency/standby power supplies, i.e., typical building services and utilities. The fire incident history in areas where this fuel storage is used is consistent with the fuel is placed inside a building fire. An April 2004 report of NFPA reviewing structural fires in which Class II combustible liquids were the type of material first ignited revealed very low incident rates for engines. Table 1 of that study revealed an incident rate of only 0.1 percent for external combustible liquids, with no loss of life or injury and only a 0.4 percent property damage rate. Separate motor or generators also had a low incident rate of only 0.2 percent with no loss of life or injury and only a 0.2 percent property damage rate. This study covered years 1994 through 1998.

Table 34.1.3.1 has been revised to indicate limits for combustible liquids to a basic quantity of 120 gallons, with exceptions allowing a 100 percent increase for approved containers and another 100 percent increase for fully sprinklered buildings. However, in multiple generator installations, such as co-generation use, the fuel requirements can easily exceed the capacity presently allowed by Footnote “c”. There are also situations where NFPA 110 requires emergency power supply to be able to operate for 96 hours without refueling, and the quantity allowed by Footnote “c” could again not be sufficient.

For further clarification, a remodeled or new hospital facility could utilize three 2000 KW generators connected in parallel. The fuel consumption is 135 gallons per hour for each engine, or 405 gallons per hour for all three generators. Using just the minimum 24-hour fuel requirements of AIA and JCAHO would be 9,720 gallons. This would currently be permitted if using NFPA 37 and the tanks are located in 3-hour rated rooms within the structure. Having the tanks within the building provides for better fuel stability and reliability, as well as increased protection against terrorist activities.

The limits on fuel storage imposed by Table 34.1.3.1 do not appear to be justified, given the many decades of safe operation of stationary engines and turbines without a noticeable impact on the overall fire record for buildings. NFPA’s own fire analysis studies have not proven that fuel storage within structures has led to increased fire risk and building destruction, or loss of life with emergency generators.

NFPA 110 provides for up to a 660-gallon integral base mounted tank. Where the fuel storage requirements have exceeded this required value, NFPA 37 and NFPA 30 are used. The onsite fuel storage has long been referenced in NFPA 37 and is now found in Chapter 6. NFPA 37 standard has been proven over time and is very reliable. These protection requirements are allowed to be up to 1320 gallons of “other than Class I” fuels when installed in a 1-hour rated room. If the fuel requirements exceed this value because of engine size, then a 3-hour room of origin. However, it is the job of our committee as code writers to argue what these “recognized engineering practices” and “suitable” measures should be, especially in the case of very large tanks.
However, because NFPA 37 either limits fuel tank size to 660 gallons or for larger tanks requires engineering practices (e.g., a sprinkler system?) and some form of containment with the expected performance that the fire not spread beyond the room of origin. I favor NFPA 37’s approach rather than that of NFPA 5000. The Technical Committee on Internal Combustion Engines should rewrite NFPA 37, 6.3.2 to make the entire section clearer, easier to follow, and enforce, and most importantly, to require fire rated separation between large liquid fuel tanks and those hazards exposed to and exposed by the tanks.”

Affirmative Comment #2: “The provisions of NFPA documents need to be consistent and logical. The divergent requirements now in place should be harmonized as the comment suggests. For example, in this time when the possibility of terrorist attack is increased, back-up generator of electrical power to key public installations may be of critical importance and it would be unfortunate to impose obstacles to proper fuel supply that are not founded on sound technical considerations.

This comment has been circulated for letter ballot to the Technical Committee on Liquid Fuel Burning Equipment with the following results:

- **Voting Members:** 18
- **Affirmative:** 11
- **Negative:** 0
- **Abstaining:** 0
- **Not Received:** 0

The reason for the negative vote is as follows: (none provided)

**COMMITTEE MEETING ACTION:** Reject

**COMMITTEE STATEMENT:** The committee reaffirms its action on proposals 5000-885 and 5000-886 as indicated in the ROP. Also see Committee Action and Statement for Comment 5000-606.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 25

5000-608 Log #532 BLD-IND  **FINAL ACTION:** Reject

**SUBMITTER:** Rick Thorberry, The Code Consortium, Inc. / Rep. APA

**COMMENT ON PROPOSAL NO:** 5000-888
**RECOMMENDATION:** No revisions proposed to the submitter’s proposal since we support the revisions proposed by the submitter.

**SUBSTANTIATION:** See the above recommendation.

**COMMITTEE MEETING ACTION:** No specific action recommended by the submitter.

**COMMITTEE STATEMENT:** No specific action recommended by the submitter.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 25

5000-609 Log #162 BLD-IND  **FINAL ACTION:** Accept in Principle

**SUBMITTER:** Technical Correlating Committee on Building Code

**COMMENT ON PROPOSAL NO:** 5000-889
**RECOMMENDATION:** Give consideration to Kraus’ and Tabar’s explanation of negative so as to make any needed changes.

**SUBSTANTIATION:** See the above recommendation.

**COMMITTEE MEETING ACTION:** Accept in Principle

**COMMITTEE STATEMENT:** This action addresses the concerns raised during ROP balloting and more clearly indicates the committee’s intent with regard to the maximum allowable quantities of flammable and combustible liquids in mercantile occupancies.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 24 Abstain: 1

5000-610 Log #552 BLD-IND  **FINAL ACTION:** Accept in Principle

**SUBMITTER:** Jeffrey M. Shapiro, International Code Consultants / Rep. Chlorine Institute

**COMMENT ON PROPOSAL NO:** 5000-908
**RECOMMENDATION:** Reject the proposal.

**SUBSTANTIATION:** I agree with some of the opposition comments expressed in the negative ballots of other committee members on Proposal 5000-912.

**COMMITTEE MEETING ACTION:** Accept in Principle

**COMMITTEE STATEMENT:** See Committee Action and Statement for Comment 5000-647.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 25

5000-611 Log #561 BLD-IND  **FINAL ACTION:** Accept in Principle

**SUBMITTER:** Jeffrey M. Shapiro, International Code Consultants / Rep. Chlorine Institute

**COMMENT ON PROPOSAL NO:** 5000-900
**RECOMMENDATION:** Revise all 34.1.3.2 tables in the ROP ballot draft by clarifying the definition of a “Class 3 oxidizer storage” from “3” to “4.”

**SUBSTANTIATION:** Corrects an editorial error.

**COMMITTEE MEETING ACTION:** Accept in Principle

**COMMITTEE STATEMENT:** The changes proposed by the submitter have already been incorporated into the draft of chapter 34 as indicated in the preprint.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 25

5000-612 Log #562 BLD-IND  **FINAL ACTION:** Accept

**SUBMITTER:** Jeffrey M. Shapiro, International Code Consultants / Rep. Chlorine Institute

**COMMENT ON PROPOSAL NO:** 5000-895
**RECOMMENDATION:** Add: “Including allowable increase for sprinklers and cabinets.”

**SUBSTANTIATION:** See the above recommendation.

**COMMITTEE MEETING ACTION:** Accept

**COMMITTEE STATEMENT:** The committee reaffirms its action on Proposal 5000-890.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 25

5000-613 Log #163 BLD-IND  **FINAL ACTION:** Accept (Table 34.1.3.1)

**SUBMITTER:** Technical Correlating Committee on Building Code

**COMMENT ON PROPOSAL NO:** 5000-890
**RECOMMENDATION:** Give consideration to Kraus and Tabar’s explanation of negative so as to make any needed changes.

**SUBSTANTIATION:** See the above recommendation.

**COMMITTEE MEETING ACTION:** Accept in Principle

**COMMITTEE STATEMENT:** No specific action necessary.

**NUMBER ELIGIBLE TO VOTE:** 29
**BALLOT RESULTS:** Affirmative: 24 Abstain: 1

5000-614 Log #164 BLD-IND  **FINAL ACTION:** Accept in Principle (Table 34.1.3.1)

**SUBMITTER:** Technical Correlating Committee on Building Code

**COMMENT ON PROPOSAL NO:** 5000-893
**RECOMMENDATION:** Give consideration to Shapiro’s comment on affirmative so as to make any needed changes.

**SUBSTANTIATION:** See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-617.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-617.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-615 Log #207 BLD-IND FINAL ACTION: Accept (Table 34.1.3.1)


COMMENT ON PROPOSAL NO: 5000-892

RECOMMENDATION: Relocate the “Consumer firework laws” line to the correct alphabetical order.

SUBSTANTIATION: This is an additional editorial correction.

COMMITTEE MEETING ACTION: Accept in Principle


COMMENT ON PROPOSAL NO: 5000-891

RECOMMENDATION: Accept this proposal in part in principle and use the following wording:

Table 34.1.3.1 Maximum Allowable Quantity of Hazardous Materials per Control Area *

<table>
<thead>
<tr>
<th>Combustible fiber - Loose</th>
<th>High Hazard protection level 3</th>
<th>Storage (solid pounds)</th>
<th>Use - Closed systems (solid pounds) 100 ft³</th>
<th>Use - Open Systems (solid pounds) 20 ft³</th>
<th>[No change]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combustible fiber - Baled</td>
<td>High Hazard protection level 3</td>
<td>Storage (solid pounds)</td>
<td>Use - Closed systems (solid pounds) 1,000 ft³</td>
<td>Use - Open Systems (solid pounds) 200 ft³</td>
<td>[No change]</td>
</tr>
<tr>
<td>Combustible fiber - Densely-packed cotton bales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable (Note h)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- No change to notes “a” through “g”.
- Add new note h
- Rename notes “h” through “n” as notes “i” through “o”.
- See Chapter 3 for a definition of “densely-packed cotton bales”.

SUBSTANTIATION: This comment is one of a set of four comments addressing proposals NFPA 5000-191, 5000-891, 5000-900 and 5000-1131. The basic objective of all the comments is to eliminate “densely-packed cotton bales” from the restrictions associated with hazardous materials. This requires also adding definitions of baled cotton and amending the definition of combustible fiber. Even if proposal NFPA 5000-900 is accepted and “Maximum Allowable Quantity of Hazardous Materials per Control Area” are no longer applicable to storage or industrial occupancies, it would follow logically from the exclusion by the Uniform Fire Code committee of “combustible fibers” from the list of hazardous materials, that the table of hazardous materials should not include “densely-packed cotton bales”, and perhaps should not include any “combustible fibers”.

In its statement when rejecting my proposal NFPA 5000-891, the technical committee on Industrial, Storage and Miscellaneous Occupancies stated that: “The committee is of the opinion that cotton is more appropriately classified as a combustible fiber rather than a flammable solid. The committee further notes that exposes a complete mattress to a significant flaming fire source, and in the cotton industry tests several complete cotton bales were exposed to the same cotton bales; most of the information traditionally available is anecdotal evidence which is no longer valid for densely-packed cotton bales.

The technical committee is also incorrect when discussing the fire tests conducted by the cotton industry: they were not small scale tests as most of the tests were conducted on full bales of cotton (500 pounds in weight and 55 lb/in. long by 21 in. wide by 35 in. high). In fact, the cotton industry conducted significant fire research to demonstrate the low fire hazard associated with densely-packed baled cotton. ASTM E 1590 is a full scale heat release test that exposes a complete mattress to a significant flaming fire source, and in the cotton industry tests several complete cotton bales were exposed to the same
flaming ignition source. Also as part of the same research conducted by the cotton industry, it was shown that placing a complete electric heater inside the cotton bale did not cause the cotton to burn because of lack of oxygen. The remainder of the details on the research has already been presented and is not presented again here. Moreover, fire-packed cotton bales (which are bales where fires have occurred, usually during the ginning process) are isolated and are never mixed with densely-packed cotton bales. Therefore, it should be made clear that densely-packed cotton bales are not hazardous materials.

The NFPA 1/UFC technical committee analyzed this issue also at its ROP meeting and concluded that combustible fibers should not be considered "hazardous materials" (when it accepted in principle proposal NFPA 1-186). "The Committee agrees with the submitter’s proposal to delete combustible fibers from being included in the requirements of regulated hazardous materials in Chapter 60. The Committee upon reviewing the recommendation and substantiation agreed that combustible fibers by themselves are not necessarily hazardous, but the physical state they are in may cause the hazard. This is a similar situation to dust producing processes. The Committee also noted that they do not agree that combustible fibers should be regulated as a hazardous material, but that precautions are needed for the safe storage of the product. The protection is properly excluded from the table of hazardous materials, since it is not a hazardous material. Acceptance of this comment will not, in any way, affect the classification of mobile equipment or vehicles. The Committee is moving Chapter 62 Combustible Fibers out of Part VI, Hazardous Materials, and into Part IV, Processes as Chapter 45, since the Committee agrees that combustible fibers should not be considered hazardous materials."

The NFPA 1/UFC technical committee also believes that "densely-packed cotton bales", should be accepted as a special case, due to their good fire performance, and incorporated the definition into the code (see action on NFPA 1-34). "The Committee agreed with the submitter’s proposal and added the identified definitions to NFPA 1 UFC through its incorporation of the terms defined in NFPA 230 in this revision cycle. See Proposal 1-27 (Log #CP30). The terms were editorially revised to comply with the NFPA MOS format for definitions. The second sentence of 3.3.1.4.4 was not accepted as it appears to contradict the main definition. The definitions incorporated into NFPA 1/UFC had the exact language contained in this comment."

The NFPA 1/UFC technical committee also noted, when rejecting NFPA 1-176): "The Uniform Fire Code Committee is trying to maintain consistency with NFPA 5000 in this area. These requirements will need to be correlated with NFPA 5000 at the comment stage. The existing text is coordinated with NFPA 5000 for the regulation of hazardous materials and the 5000 section on combustibles. The NFPA 1 UFC Committee believes that the actions taken on Proposals 1-186 (Log #160) and 1-34 (Log #170) meet the submitter’s intent. This proposed code change would place a definition in a footnote, and this is not permitted in accordance with the NFPA MOS. This Committee is of the opinion, that cotton is more appropriately classified as a combustible rather than as a hazardous solid. This Committee further notes that baled cotton does present a fire hazard, and it is associated with deep-seated fires that are difficult to control and extinguish once ignited. The Committee also notes that the building height and area would trigger the requirement for a sprinkler system. The Committee notes that it is improper to declare densely-packed cotton bales are much less hazardous than normal baled cotton. Unfortunately, the NFPA 1/UFC technical committee also restated the incorrect anecdotal assumption that cotton bales present a fire hazard."

As stated before, densely-packed baled cotton (measuring the size and weight requirements) is not a hazardous material. This concept was accepted by the US Department of Transportation (US Coast Guard), the International Maritime Organization (IMO) and the Uniform Fire Code committee. Currently, ninety-nine plus percent of all U.S. cotton is pressed and stored as densely-packed baled cotton. Those bales meet the weight and dimension requirements of ISO 8115 (Cotton Bales - Dimensions and Density). The definitions incorporated into NFPA 1/UFC were:

"Baled Cotton Definitions

Baled Cotton. A natural seed fiber wrapped and secured in industry-accepted materials, usually consisting of burlap, woven polypropylene, or sheet polyethylene, and secured with steel, synthetic, or wire bands, or wire; also includes linters (lint removed from the cottonseed) and motes (residual materials from the ginning process),

Densely-Packed Baled Cotton. Cotton, made into banded bales, with a packing density of at least 360 kg/m³ (22 lb/ft³), and dimensions complying with the following: a length of 1400 ± 20 mm (ca. 55 in.), a width of 530 ± 20 mm (ca. 21 in.),and a height of 700-900 mm (27.6-35.4 in.).

Fire-Packed Baled Cotton. A cotton bale within which a fire has been packed as a result of a process, ginning being the most frequent cause."

Naked Cotton Bale. An unwrapped baled cotton bale secured with wire or steel straps."

Acceptance of this comment would ensure that densely-packed baled cotton is properly excluded from the table of hazardous materials, since it is not a hazardous material. Acceptance of this comment will not, in any way, affect the sprinkler requirements that result from building height and areas.

**COMMITTEE MEETING ACTION:** Accept in Principle

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

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5000-617 Log #510 BLD-IND **FINAL ACTION:** Accept (Table 34.1.3.1)

**SUBMITTER:** Bruce J. Svieciccki, National Gas Association

**COMMENT ON PROPOSAL NO:** 5000-893

**RECOMMENDATION:** In Number 6 which refers to Note “q”, revise to read as follows:

"Flammable and combustible liquids and flammable gases in the fuel tanks of mobile equipment or vehicles shall be permitted to exceed the MAQ where the equipment is stored and operated in accordance with the fire code."

**SUBSTANTIATION:** 1. There is no reason to limit this provision to equipment that is “operating.” Equipment at rest should also be covered. 2. New wording is consistent with Shapiro’s comment in the ROP. **COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 24 Abstain: 1

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

**EXPLANATION OF ABSTENTION:** SHAPIRO: New client interest not associated with the interest that I represent on the committee that will be affected by this comment.}

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5000-618 Log #519 BLD-IND **FINAL ACTION:** Accept in Principle (Table 34.1.3.1)

**SUBMITTER:** Michael W. St. Clair, The Ohio State University

**COMMENT ON PROPOSAL NO:** 5000-892

**RECOMMENDATION:** Footnote 1 Unlimited amounts of gas shall be allowed to be used for personnel or emergency medical use.

**SUBSTANTIATION:** These requirements would be consistent with NFPA 55. **COMMITTEE MEETING ACTION:** Accept in Principle

Add a new footnote "e" to the title of Tables 34.1.3.2(a) through (h) to read as follows:

e. Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use.

**COMMITTEE STATEMENT:** Meets the intent of the submitter and the committee.

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

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5000-619 Log #520 BLD-IND **FINAL ACTION:** Accept in Principle (Table 34.1.3.1)

**SUBMITTER:** Michael W. St. Clair, The Ohio State University

**COMMENT ON PROPOSAL NO:** 5000-892

**RECOMMENDATION:** Footnote 1 Fuel used for maintenance and repair shall not exceed 250 ft³.

**SUBSTANTIATION:** These requirements would be consistent with NFPA 55. **COMMITTEE MEETING ACTION:** Accept in Principle

With the exception of Table 34.1.3.2(c), add a new footnote “f” to Tables 34.1.3.2(a) through (h) for the materials “flammable gas”, “oxidizing gas” and “Class 2 Unstable reactive” to read as follows:

F. Fuel gas used for maintenance, repair and operation of equipment that is “operating.” Equipment at rest should also be covered. **COMMITTEE STATEMENT:** Meets intent of the submitter and the committee.

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

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**COMMENT ON AFFIRMATIVE BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

**DENOTATION:** 4 DOODY, GARRETT, RAJ, WREN

**DENOTATION:** 4 DOODY, GARRETT, RAJ, WREN

**DENOTATION:** 4 DOODY, GARRETT, RAJ, WREN

**DENOTATION:** 4 DOODY, GARRETT, RAJ, WREN

**DENOTATION:** 4 DOODY, GARRETT, RAJ, WREN

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5000-617 Log #510 BLD-IND **FINAL ACTION:** Accept (Table 34.1.3.1)

**SUBMITTER:** Michael W. St. Clair, The Ohio State University

**COMMENT ON PROPOSAL NO:** 5000-892

**RECOMMENDATION:** Footnote 1 Fuel used for maintenance and repair shall not exceed 250 ft³.

**SUBSTANTIATION:** These requirements would be consistent with NFPA 55. **COMMITTEE MEETING ACTION:** Accept in Principle

With the exception of Table 34.1.3.2(c), add a new footnote “f” to Tables 34.1.3.2(a) through (h) for the materials “flammable gas”, “oxidizing gas” and “Class 2 Unstable reactive” to read as follows:

F. Fuel gas used for maintenance, repair and operation of equipment that shall not exceed 250 ft³.

**COMMITTEE STATEMENT:** Meets intent of the submitter and the committee.

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

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**FLUOR:** 1. The addition of footnote “f” to oxidizing gas, flammable gas or Class 2 unstable reactive gas was intended to allow any of these gases to be present in a quantity of 250 cubic feet; however, as stated in the footnote the footnote limits the scope to fuel gas. Fuel gases include those that are flammable and those that are also classified as Class 2 Unstable Reactive gases such as acetylene or certain gases used in welding operations. The footnote should be editorially revised to carry out the intent of the committee by adding the term “oxidizing” as follows. Gases that also fall into the category of unstable reactive are suitably addressed under the term fuel gas.

"Fuel or oxidizing gas used for maintenance, repair and operation of equipment shall not exceed 250 cubic feet."
5000-620 Log #521 BLD-IND  FINAL ACTION: Accept in Principle (Table 34.1.3.1)

SUBMITTER: Michael W. St. Clair, The Ohio State University

COMMENT ON PROPOSAL NO: 5000-892

RECOMMENDATION: Make all gas limits 0 other than flammable and oxidizing gases up to 250 ft³.

SUBSTANTIATION: These requirements would be consistent with NFPA 55.

COMMITTEE MEETING ACTION: Accept in Principle

With the exception of Table 34.1.3.2(c), in Tables 34.1.3.2(a) through (h) for the materials “flammable gas,” “oxidizing gas,” “pyrophoric materials,” “Class 1, 2, 3, 4 Unstable reagents,” “Corrosives,” “High toxic” and “Toxic” revise the quantities in the “Gas” column to read “Not Permitted” in 10 places.

COMMITTEE STATEMENT: Meets intent of the submitter and the committee.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMITTEE STATEMENT: This action addresses the reasons for negative vote and abstention ballots during ROP balloting and clarified the committee’s intent.

SUBMITTER: Patrick A. McLaughlin, McLaughlin & Assoc.

COMMENT ON PROPOSAL NO: 5000-900

RECOMMENDATION: Delete the “Combustible fiber” line from the tables.

SUBSTANTIATION: Combustible fiber should not be regulated as a hazardous material.

COMMITTEE MEETING ACTION: Accept in Principle

Accept the submitter’s recommendation as indicated. In addition, delete all references in the terms “combustible fiber” and “combustible fibers” in the code as indicated in sections 3.3.79, 3.3.340.12, A.3.3.205, 34.3.2.9.3 and Tables 34.1.3.1 and 34.1.3.2 (a) through (h).

3.3.79 Combustible Fiber. Any material in a fibrous or shredded form that will readily ignite when heat sources are present.

5000-621 Log #564 BLD-IND  FINAL ACTION: Accept in Principle (Table 34.1.3.1)


COMMENT ON PROPOSAL NO: 5000-893

RECOMMENDATION: Revise Note 6.2 to read:

“Flammable and combustible liquids and flammable gases in the fuel tanks of operating mobile equipment or vehicles shall be permitted to exceed the MAQ when the equipment is stored and operated in accordance with the fire code.”

SUBSTANTIATION: Note 6 requires revision to make it clear that the “tank of operating mobile equipment” does not include cargo tanks on tank vehicles.

COMMITTEE MEETING ACTION: Accept in Principle

See Committee Action and Statement for Comment 5000-617.

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-617.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-621a Log #CC704 BLD-IND  FINAL ACTION: Accept (Table 34.1.3.1)

SUBMITTER: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

COMMENT ON PROPOSAL NO: 5000-892

RECOMMENDATION: 1. In Table 34.1.3.1 of the ROP preprint, for the material “Combustible Liquid, Class IIIB” for the quantity of 13, 200 under the “storage, liquid” column, revise the reference to footnote “f” to read footnote “e” as follows: 13,200 “f” to 13,200 “e”

2. In Table 34.1.3.1 of the ROP preprint, for the material “Combustible Liquid, Class IIIB” for the quantity of 13, 200 under the “use-open systems, liquid” column, delete the reference to footnote “e” as follows: 13,200 “f” to 13,200 “e”

SUBSTANTIATION: Editorial corrections.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-622 Log #165 BLD-IND  FINAL ACTION: Accept in Principle (34.1.3.1, A.34.1.1 and A.6.3.2 (New))

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-895

RECOMMENDATION: Give consideration to Kraus’ explanation of negative and Ordile’s and Shapiro’s comment on affirmative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Revise the proposed second paragraph to section A.34.1.1 to read as follows:

Not all of the hazardous materials categories are placed into the High Hazard category, and some of these materials (contents) have been recognized as being of Low or Ordinary hazards depending on their nature in a fire, such as Class IIIB Combustible Liquids, Class I Unstable (reactive) material, Class I Water Reactive materials, Class I Oxidizing solids and liquids and Class IV and V Organic Peroxides. are High Hazard Materials, which in some cases these materials do not have a maximum allowable quantity (MAQ) and therefore are not required to comply with the requirements for Protection Levels 1 through 5. Some materials, though classified as High Hazard such as Aerosols, are exempt from the requirements of Chapter 34 as they are regulated elsewhere in the code. For combustible and “combustible fibers” the Technical committee agrees that combustible fibers are not hazardous materials. Also see committee action on comment 5000-625.

COMMITTEE STATEMENT: Meets intent of the submitter, and clarifies the committee’s position. The committee finds no reason to maintain the use of the term combustible fiber, or a definition for it. The technical committee agrees that combustible fibers are not hazardous materials. Also see committee action on comment 5000-625.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 25

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-624 Log #566 BLD-IND  FINAL ACTION: Accept in Principle (Table 34.1.3.1, Note r)


COMMENT ON PROPOSAL NO: 5000-895

RECOMMENDATION: Add a reference to the new footnote is required, and it is most appropriately located with the row header for “combustible liquids.”

SUBSTANTIATION: Editorial.

COMMITTEE MEETING ACTION: Accept in Principle

No specific action necessary.

COMMITTEE STATEMENT: The changes proposed by the submitter have already been incorporated into the draft of Chapter 34 as indicated in the present NFPA 5000.
SUBSTANTIATION: This comment is one of a set of four comments addressing proposals NFPA 5000-191, 5000-891, 5000-900 and 5000-1131. The basic objective of all the comments is to eliminate “densely-packed cotton bales” from the restrictions associated with hazardous materials. This requires also adding definitions of baled cotton and amending the definition of combustible fiber. Even if proposal NFPA 5000-900 is accepted and “Maximum Allowable Quantity of Hazardous Materials per Control Area” are no longer applicable to storage or industrial occupancies, it would follow logically from the exclusion by the Uniform Fire Code committee of “combustible fibers” from the list of hazardous materials, that the table of hazardous materials should not include “densely-packed cotton bales”, and perhaps should not include any “combustible fibers”. If some combustible fibers are still included in the table of hazardous materials (and that does not seem a logical outcome), the technical committee offered no justification for decreasing the permitted maximum allowable quantities. This comment seeks to reinstate the maximum allowable quantities of combustible fibers to their earlier values, if the technical committee chooses not to eliminate them altogether from the tables.

In its statement when rejecting my proposal NFPA 5000-891, the technical committee on Industrial, Storage and Miscellaneous Occupancies stated that: “The committee is of the opinion that cotton is more appropriately classified as a combustible fiber rather than a flammable solid. The committee further notes that baled cotton does present a fire hazard, and is associated with deep seated fires that are difficult to control and extinguish once ignited. The committee also notes that only small scale tests are referenced in the substantiation, and that requirements for sprinkler systems are also triggered by building height and area.”

The technical committee is correct in stating that cotton (as densely-packed cotton bales), is not a flammable solid, but that it is a combustible fiber. If proposal NFPA 5000-900 is accepted and “Maximum Allowable Quantity of Hazardous Materials per Control Area” require also adding definitions of baled cotton and amending the definition of combustible fiber.

This comment is correct in talking about the requirements for sprinkler systems triggered by building height and area. However, the technical committee is incorrect when talking about the fire hazard of densely-packed cotton bales; most of the information traditionally available is anecdotal evidence which is no longer valid for densely-packed cotton bales.

The cotton industry has investigated the issue of “fire-packed cotton bales”. Several issues need to be presented to the committee:

1. After repeated experiments, the cotton industry has found that it is not possible to get a sustained fire (either smoldering or flaming) inside a cotton bale, unless the bale has a density of less than 14 lb/ft³. If the density is 14 lb/ft³ or higher, there is insufficient oxygen to sustain combustion. For that reason, the compression for “densely-packed cotton bales” was set at 22 lb/ft³ (360 kg/m³), giving a safety factor of > 50%. If some combustible fibers are still included in the table of hazardous materials, the technical committee is also correct in talking about the requirements for sprinkler systems triggered by building height and area.

2. Fires, therefore, will not occur in a “densely-packed cotton bale” but will only occur during the ginning operation, when cotton bales are being created. Once the cotton bale has been compressed to a sufficient density to create a “densely-packed cotton bale” an internal fire can no longer exist within the bale.

3. The US Department of Agriculture (Agricultural Handbook Number 503, W.S. Anthony and M.D. Mayfield ed., 1994, front page of the safety section attached as a pdf file) has issued the “Cotton Gimmers Handbook”, which contains a safety section that describes the procedures for isolating cotton bales when fires occur within the bale (before it has been compressed properly). These instructions, for the “ginner”, the “press operator” and “other crew members” read as follows: “Procedures for Gin Fires: When a fire occurs, the ginner and press operator should do the following:

1. Sound the horn several times with many rapid blasts to alert the press man and the rest of the crew.
2. Kick out the gin stands.
3. Open all fire doors.
4. Stop the flow of seed cotton from the feed control or module feeder.
5. Shut off all heaters, V-trough conveyors, and seed conveyors.
6. Kick in the fire door at the gin stands.
7. Attach a tarp on each gin stand.
8. Run cotton from the feeder apron out onto the floor. Gin all cotton before shutting the gin down.
9. Wet down all burning cotton on the floor.
10. Move all the burned cotton to the outside of the gin, and put the cotton next to a water supply.
11. Shut down all gin equipment for cleanout.

Press operator:

1. While the press and the battery condenser until the fire is out.
2. Wait until all cotton is down the slide, and then turn the press and raise the bale out of the press.
3. Keep the rammer running if cotton is burning in the lint slide.
4. If a fire is in the battery condenser, wet down the areas around the flashing and rollers, and avoid letting the fire burn on the lint belt or near the flashing.
5. Isolate at least two bales before and after a suspected bale fire.

Other crew members:

The lint cleaner operator should stay with the lint cleaners until the fire is completely out. The moteman/yard operator should move the mote.
The module feeder operator should move the module away from the spike rollers to stop feeding seed cotton into the gin. All other crew members should report to the ginner. Only water was used to put out cotton fires. Chemical fire extinguishers should be used on oil, gas, and electrical fires only.

4. In the ginning process the lint fiber is separated from the cotton seed by automated mechanical operations, involving heating of the lint fiber for drying purposes. During ginning, the three most common sources of ignition are: friction, sparks created by the machinery and high temperature. Any bale observed visually or identified through high temperature is separated and quarantined in a clear space, at least 100 yards from any building. For a minimum of five days.

5. Therefore, fire packed cotton bales will not reach storage facilities. They will stay in the gin and be quarantined there while being properly cared for. After the quarantine, the fire-packed bale will usually be reworked, cotton will be added to it and it will be recompressed into a "densely-packed cotton bale". Alternatively, it will be shipped as a low density bale, which results in a large cost penalty to the seller.

The technical committee identified definitions to NFPA 1 UFC through its incorporation of the terms "combustible fibers" and "hazardous materials." This Committee is of the opinion that combustible fibers should not be considered hazardous materials due to their good fire performance, and incorporated the definition into the code (see action on NFPA 1-186).

The Committee notes that the proposed definition of combustible fibers should be amended to make it clear that densely-packed baled cotton is a very special type of combustible fibers, which is not easily ignitable and is not a hazardous material. Therefore, fire-packed bales will not reach storage facilities. They will stay in the gin and be quarantined there while being properly cared for. After the quarantine, the fire-packed bale will usually be reworked, cotton will be added to it and it will be recompressed into a "densely-packed cotton bale". Alternatively, it will be shipped as a low density bale, which results in a large cost penalty to the seller.

As stated before, densely-packed baled cotton (meeting the size and weight requirements of ISO 8115) is not a hazardous material. This concept was accepted by the US Department of Transportation (US Coast Guard), the International Maritime Organization (IMO) and the Uniform Fire Code committee. Currently, ninety-nine plus percent of all U.S. cotton is pressed and stored as densely-packed baled cotton. Those bales meet the weight and dimension requirements of ISO 8115 (Cotton Bales - Dimensions and Density).

The definition of combustible fibers should be amended to make it clear that densely-packed baled cotton is a very special type of combustible fibers, which is not easily ignitable and is not a hazardous material. Therefore, fire-packed bales will not reach storage facilities. They will stay in the gin and be quarantined there while being properly cared for. After the quarantine, the fire-packed bale will usually be reworked, cotton will be added to it and it will be recompressed into a "densely-packed cotton bale". Alternatively, it will be shipped as a low density bale, which results in a large cost penalty to the seller.
COMMENT ON AFFIRMATIVE:
GAW: After reviewing the Negative comment from Bill Koffel relating to the proposed Footnote 5 to Table 34.1.3.2(g), I wish to submit the following comment:

I agree in principle with Mr. Koffel’s Negative comment but suggest that there may be other errors included in the Table, or other recommendations needed, to adequately address the allowance for hazardous materials in Detention and Correctional Occupancies. For example, I fail to see the need to allow up to 125 lb of Class 1.4 G Consumer Fireworks in each control area of a Detention and Correctional Occupancy or in a Health Care facility, which may or may not be situated on a prison property. Rather than rejecting the entire Table, I recommend that the Technical Correlating Committee establish a working group or groups to determine the validity of the MAQ’s shown in Table 34.1.3.2 for the various occupancy chapters and make amendments as needed.

5000-631 Log #166d BLD-END FINAL ACTION: Accept in Principle (34.1.3.2, 34.1.3.2.3, 34.1.3.2.3.1, 34.1.3.2.3.2, and Table 34.1.3.2(a) through (h) (New))

TCC Action: The Technical Correlating Committee (TCC) concurs with the recommendation of BLD-END to form a task group to further refine the MAQ values for the 2009 edition of NFPA 5000. An ‘In House Scoping Support Team’, created by the NFPA Standards Council and populated by NFPA staff has been working to coordinate values and has been first working with the numerous committees that address these subjects. Once that effort is completed, the TCC will work towards appointment of the suggested task group to provide more guidance on this subject.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-900
RECOMMENDATION: Review the action on this proposal and determine if the revised MAQ values are correct for each occupancy and to submit any comments for consideration by BLD-IND.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
Revise Table 34.1.3.2(g) as shown below.

Note to BLD-AAC Technical Correlating Committee (TCC): The BLD-Det Committee asks the TCC to establish a task group with representatives from Chapter 34 and all the occupancy chapter technical committees. Little or no direction was given for processing the MAQ provisions during ROC-preparation for the 2006 edition of NFPA 5000. The task group should be charged with commencing work early on needed changes and coordination issues related to MAQ for the 2009 edition.

NUMBER ELIGIBLE TO VOTE: 18
BALLOT RESULTS: Affirmative: 12 Negative: 1
BALLOT NOT RETURNED: 5 GORDON, MCNAMARA, MILLER, NEALY, PAVEY

EXPLANATION OF NEGATIVE:
KOFFEL: I cannot support the proposed Footnote 5 which would allow unlimited quantities of hazardous materials in a Detention and Correctional Occupancy which is protected with automatic sprinkler protection. The concept of the table is to identify the maximum allowable quantities of hazardous materials before the contents are considered high hazard contents. It seems unreasonable to raise the limit to an infinite quantity based upon the presence of automatic sprinkler protection. The current Code does not permit unlimited quantities of hazardous materials without classifying the contents as high hazard contents.

Table 34.1.3.2 (a) Maximum Allowable Quantities of Hazardous Materials per Control Area in Detention and Correctional Occupancies

<table>
<thead>
<tr>
<th>Material Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>60 gal</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>120 gal</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>1/4 pound</td>
<td>1/4 pound</td>
<td>NA</td>
</tr>
<tr>
<td>Gaseous Liquefied</td>
<td>NA</td>
<td>1000 cubic ft</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>20 pounds</td>
<td>NP</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>5 pounds</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>3 pounds</td>
<td>NP</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>3 pounds</td>
<td>NP</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>250 pounds</td>
<td>NP</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>4000 pounds</td>
<td>NP</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>1000 cubic ft</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>15 gal</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>125 pounds</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

1. Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gallons.
2. Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
3. Maximum quantity of 2000 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.
4. Gas cylinders not exceeding 20 cubic ft at NTP are allowed in gas cabinets or fume hoods.
5. The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13.
### Table 34.1.3.2(d) Maximum Allowable Quantities of Hazardous Materials per Control Area in Educational Occupancies

<table>
<thead>
<tr>
<th>Material Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid¹,²</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- I and II combined</td>
<td>NA</td>
<td>60 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- IIA</td>
<td>NA</td>
<td>120 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- IIIB</td>
<td>NA</td>
<td>200 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Combustible Fiber</td>
<td>20 cubic ft</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>- Loose</td>
<td>200 cubic ft</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- Flammable</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Explosives</td>
<td>1/4 pound</td>
<td>1/4 pound</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Gas¹</td>
<td>Gaseous</td>
<td>NA</td>
<td>1000 cubic ft</td>
</tr>
<tr>
<td>- Gaseous</td>
<td>NA</td>
<td>20 rounds</td>
<td>NA</td>
</tr>
<tr>
<td>Consumer fireworks</td>
<td>1/4 pound</td>
<td>1/4 pound</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NA</td>
<td>10 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>1 pound</td>
<td>1 pound</td>
<td>NA</td>
</tr>
<tr>
<td>- Gaseous</td>
<td>NA</td>
<td>250 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>- Liquid</td>
<td>4000 pounds²</td>
<td>400 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>- Gaseous</td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- Liquid</td>
<td>NA</td>
<td>1500 cubic ft</td>
<td>NA</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- Detonatable</td>
<td>NA</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- I</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- II</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- III</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- IV</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- V</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- Explosives</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>- Water Reactive</td>
<td>1 pound</td>
<td>1 pound</td>
<td>NA</td>
</tr>
<tr>
<td>- Corrosives</td>
<td>1000 pounds</td>
<td>100 gal</td>
<td>$10 cubic ft</td>
</tr>
<tr>
<td>Highly Toxic¹</td>
<td>5 pounds</td>
<td>3 pounds</td>
<td>20 cubic ft</td>
</tr>
<tr>
<td>Oxidizable Materials</td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Notes:**
- NP – Not permitted
- NA – Not applicable

1. Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gallons.
2. Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
3. Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.
4. Gas cylinders not exceeding 20 cubic ft at NTP are allowed in gas cabinets or fume hoods.
5. The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13.

### Table 34.1.3.2(e) Maximum Allowable Quantities of Hazardous Materials per Control Area in Day Care Occupancies

<table>
<thead>
<tr>
<th>Material Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid¹,²</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- I and II combined</td>
<td>NA</td>
<td>60 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- IIA</td>
<td>NA</td>
<td>120 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- IIIB</td>
<td>NA</td>
<td>200 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Combustible Fiber</td>
<td>20 cubic ft</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>- Loose</td>
<td>200 cubic ft</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- Flammable</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Explosives</td>
<td>1/4 pound</td>
<td>1/4 pound</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Gas¹</td>
<td>Gaseous</td>
<td>NA</td>
<td>1000 cubic ft</td>
</tr>
<tr>
<td>- Gaseous</td>
<td>NA</td>
<td>20 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Consumer fireworks</td>
<td>1/4 pound</td>
<td>1/4 pound</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NA</td>
<td>10 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>1 pound</td>
<td>1 pound</td>
<td>NA</td>
</tr>
<tr>
<td>- Gaseous</td>
<td>NA</td>
<td>250 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>- Liquid</td>
<td>4000 pounds²</td>
<td>400 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>- Gaseous</td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- Liquid</td>
<td>NA</td>
<td>1500 cubic ft</td>
<td>NA</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- Detonatable</td>
<td>NA</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- I</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- II</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- III</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- IV</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td>- V</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
<tr>
<td>- Explosives</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>- Water Reactive</td>
<td>1 pound</td>
<td>1 pound</td>
<td>NA</td>
</tr>
<tr>
<td>- Corrosives</td>
<td>1000 pounds</td>
<td>100 gal</td>
<td>$10 cubic ft</td>
</tr>
<tr>
<td>Highly Toxic¹</td>
<td>5 pounds</td>
<td>3 pounds</td>
<td>20 cubic ft</td>
</tr>
<tr>
<td>Oxidizable Materials</td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Notes:**
- NP – Not permitted
- NA – Not applicable

1. Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gallons.
2. Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
3. Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.
4. Gas cylinders not exceeding 20 cubic ft at NTP are allowed in gas cabinets or fume hoods.
5. The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13.
COMMITTEE STATEMENT: The revisions to the tables were made for the following reasons:

1. The oxidizing gas maximum 1500 cubic ft is at odds with the provisions of NFPA 99 and, thus, the tables were revised to defer to the criteria of NFPA 99.

2. NFPA 5000-2003 has MAQ criteria in 34.1.3.2.5 applicable to health care and ambulatory health care occupancies that were not reflected in the ROP tables and, thus, needed to be worked into the tables for consistency.

3. Various lines in the tables were misaligned and needed to be reformatted.

COMMITTEE STATEMENT: The committee is unable to provide meaningful feedback to BLD-IND at this late stage of the code development process; however, it notes it has concerns regarding the limits on oxidizing materials in residential occupancies due to in-home use of medical oxygen. The committee intends to form a task group to review this issue for the next code revision cycle.

NUMBER ELIGIBLE TO VOTE: 25
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

COMMITTEE MEETING ACTION: Accept in Principle

No action.

COMMITTEE MEETING ACTION: Accept in Principle

No action.

COMMITTEE MEETING ACTION: Accept in Principle

No action.
## Table 34.1.3.2f) Maximum Allowable Quantities of Hazardous Materials per Control Area in Health Care Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible</td>
<td></td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Liquid</td>
<td></td>
<td>NA</td>
<td>60 gal</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NA</td>
<td>120 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Combustible Fiber</td>
<td></td>
<td>NA</td>
<td>20 cubic ft</td>
<td>NA</td>
</tr>
<tr>
<td>Loose</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Baled</td>
<td></td>
<td>NA</td>
<td>200 cubic ft</td>
<td>NA</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td></td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable</td>
<td></td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizing</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Explosives</td>
<td></td>
<td>1/4 pound</td>
<td>1/4 pound</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Gas</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>1000 cubic ft</td>
</tr>
<tr>
<td>Gaseous</td>
<td></td>
<td>NA</td>
<td>20 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Liquefied</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Consumer fireworks</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td></td>
<td>5 pounds</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizers</td>
<td></td>
<td>NA</td>
<td>15 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td></td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>Unclassified Detonatable</td>
<td></td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>I</td>
<td></td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>II</td>
<td></td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>III</td>
<td></td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td></td>
<td>1/4 pound NP</td>
<td>1/4 pound NP</td>
<td>1/4 cubic ft NP</td>
</tr>
<tr>
<td>Unstable Reactives</td>
<td></td>
<td>10 pounds</td>
<td>10 pounds</td>
<td>750 cubic ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Water Reactive</td>
<td></td>
<td>1 pound</td>
<td>1 pound</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 pounds</td>
<td>10 pounds</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Corrosives</td>
<td></td>
<td>1000 pounds</td>
<td>100 gal</td>
<td>40 cubic ft</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td></td>
<td>5 pounds</td>
<td>5 pounds</td>
<td>20 cubic ft</td>
</tr>
<tr>
<td>Toxics</td>
<td></td>
<td>125 pounds</td>
<td>125 pounds</td>
<td>840 20 cubic ft</td>
</tr>
</tbody>
</table>

NA – Not applicable

NP – Not permitted

1. Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gallons.
2. Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
3. Maximum quantity of 200lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.
4. Gas cylinders not exceeding 20 cubic ft at NTP are allowed in gas cabinets or fume hoods.
5. The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13.

### COMMITTEE MEETING ACTION: Accept in Principle
No specific action necessary.

### COMMITTEE STATEMENT:
The committee offers no recommendations to revise the MAQ values in Chapter 34.

### NUMBER ELIGIBLE TO VOTE: 21

### BALLOT RESULTS: Affirmative: 15

### BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

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### FINAL ACTION: Accept in Principle

---

### COMMITTEE STATEMENT: Technical Correlating Committee on Building Code

### COMMENT ON PROPOSAL NO: 5000-900

### RECOMMENDATION: Review the action on this proposal and determine if the revised MAQ values are correct for each occupancy and to submit any comments for consideration by BLD-IND.

### SUBSTANTIATION: See the above recommendation.

### COMMITTEE MEETING ACTION: Accept in Principle

### COMMENT ON PROPOSAL NO: 5000-900

### RECOMMENDATION: Review the action on this proposal and determine if the revised MAQ values are correct for each occupancy and to submit any comments for consideration by BLD-IND.

### SUBSTANTIATION: See the above recommendation.

---

### COMMENT ON PROPOSAL NO: 5000-900

### RECOMMENDATION: Review the action on this proposal and determine if the revised MAQ values are correct for each occupancy and to submit any comments for consideration by BLD-IND.

### SUBSTANTIATION: See the above recommendation.

---

### COMMENT ON PROPOSAL NO: 5000-900

### RECOMMENDATION: Review the action on this proposal and determine if the revised MAQ values are correct for each occupancy and to submit any comments for consideration by BLD-IND.

### SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: This change is to apply to Tables 34.1.3.2(a) through (h).

Affirmative: 25

Ballo Ts NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-900 Log #567 BLD-IND

SUBMISSION: Larry Fluer, Fluer, Inc. / Rep. Automotive Occupants

RECOMMENDATION: Revise text to read as follows:
34.1.3.2 Special Occupancy Limits. Maximum allowable quantities of hazardous materials per control area in Assembly, Ambulatory Health Care, Business, Educational, Day Care, Health Care, Detention and Correctional, and Residential Occupancies consisting of Lodging and Rooming Houses, Hotels, Dormitories, Apartments, and Residential Board and Care Facilities, shall be as specified in Tables 34.1.3.2(a) through (h) specified in Table 34.1.3.1 shall be subject to the modifications set forth in 34.1.3.2. (Log #CP1604).

SUBSTANTIATION:

Add the following:
Add an additional footnote to Tables 34.1.3.2(a) [assembly], (b) [ambulatory health care], (d) [Educational], (e) [Day care], (f) [Health Care], (g) [Detention and correctional], and (h) Residential including hotels, dormitories, apartments and residential board and care]. The MAQ indicated for Table 34.1.3.2(c) [business] should remain as printed.

5. The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495.

SUBSTANTIATION: The comment above is focused solely on the category of explosive material as shown in the table generated from the ROP meeting of the committee. It is expected that other commodities will be under the purview of other specials hazards interest groups. There is no need for explosive materials in the people sensitive occupancies noted other than for legitimate purposes of law enforcement agencies in the conduct of their duties. On the other hand businesses using including colleges and universities, and laboratories not otherwise classified should be able to store, handle or use a small amount of material. The 1/4 pound limit, without modifiers, e.g., sprinklers and cabinets is within the norm established by other model codes. Although there may be a legitimate argument made for increases in sprinkled buildings or where approved cabinets (magazines) are employed, the quantity restriction is reasonable given the philosophy developed by the NFPA 5000 BLD-IND TC recognizing that all commodities are similarly restricted. By providing a means for the use of explosive materials by law enforcement entities in any occupancy the problems associated with restrictions otherwise imposed are resolved.

On the other hand the storage of explosives (by these same users) is to be in accordance with NFPA 495 which requires the use of magazines, separation distances and associated controls.

Table 34.1.3.2(a) Maximum Allowable Quantities of Hazardous Materials per Control Area in Assembly Occupancies

<table>
<thead>
<tr>
<th>Material Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid¹</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>1 and II combined; IIIA; IIB</td>
<td>NA</td>
<td>60</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>NA</td>
<td>120</td>
<td>NA</td>
</tr>
<tr>
<td>Combustible Fiber</td>
<td>Loose</td>
<td>20 cubic ft</td>
<td>NA</td>
</tr>
<tr>
<td>Baled</td>
<td>200 cubic ft</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizing</td>
<td>NA</td>
<td>10 gal</td>
<td>NA</td>
</tr>
<tr>
<td>Explosives</td>
<td>NA</td>
<td>20 pound</td>
<td>Not permitted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200 pound</td>
<td>Not permitted</td>
</tr>
<tr>
<td>Flammable Gas²</td>
<td>Gaseous</td>
<td>NA</td>
<td>1000 cubic ft</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>20 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>L4G</td>
<td>250 pounds</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>125 pounds</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NA</td>
<td>5 pounds</td>
<td>NA</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 pounds</td>
<td>1 gal¹</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>250 pounds</td>
<td>25 gal</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 pounds</td>
<td>400 gal</td>
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<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NA</td>
<td>15 gal</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NA</td>
<td>1500 cubic ft</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>Not permitted</td>
<td>Not permitted</td>
</tr>
<tr>
<td></td>
<td>Detonatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>II</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>III</td>
<td>Not permitted</td>
<td>Not permitted</td>
<td>NA</td>
</tr>
<tr>
<td>IV</td>
<td>1500 lbs</td>
<td>1500 lbs</td>
<td>NA</td>
</tr>
<tr>
<td>V</td>
<td>100,000 lbs</td>
<td>100,000 lbs</td>
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</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td>NA</td>
<td>1 pound</td>
<td>10 cubic ft</td>
</tr>
<tr>
<td>Unstable Reactives</td>
<td>4</td>
<td>1/4 pound</td>
<td>1/4 pound</td>
</tr>
<tr>
<td></td>
<td>1 pound</td>
<td>1 pound</td>
<td>2 cubic ft</td>
</tr>
<tr>
<td></td>
<td>10 pounds</td>
<td>10 pounds</td>
<td>10 cubic ft</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 pound</td>
<td>1 pound</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 pounds</td>
<td>10 pounds</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Corrosives</td>
<td>2</td>
<td>10 pounds</td>
<td>10 pounds</td>
</tr>
<tr>
<td>Highly Toxic²</td>
<td>NA</td>
<td>3 pounds</td>
<td>3 pounds</td>
</tr>
<tr>
<td>Irritants</td>
<td>1</td>
<td>1/5 pound</td>
<td>1/5 pound</td>
</tr>
</tbody>
</table>

1. Storage in excess of 10 gal of Class I and II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gallons.
2. Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
3. Maximum quantity of 2000 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.
4. Gas cylinders not exceeding 20 cubic ft at NTP are allowed in gas cabinets or fume hoods.
COMMITTEE MEETING ACTION: Accept in Principle
1. In Tables 34.1.3.2(a) through (h), with the exception of table 34.1.3.2(c), in the row entitled “Explosives”, revise the quantity “1/4 pound” to read “Not permitted” in two places as recommended by the submitter.
2. In Tables 34.1.3.2(a) through (h), add footnote “S” as recommended by the submitter but rename as footnote “I”, and attach the reference to footnote “I” to the term “Explosives” in the tables.
3. In Tables 34.1.3.2(a) through (h), attach a reference to a new footnote “g” to the term “Explosives”, and add a new footnote “g” to read as follows: “(g) Flammable gas and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopoeia, or the National Formulary shall not be limited.”
4. In Tables 34.1.3.2(a) through (h), attach a reference to a new footnote “h” to the term “Explosives”, and add a new footnote “h” to read as follows: “(h) The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight.”
5. In Tables 34.1.3.2 (a), (c), (d), (g) and (h), attach a reference to a new footnote “i” to the term “Explosives”, and add a new footnote (i) to read as follows:

“(i) The storage and use of small arms ammunition and components thereof when in accordance with NFPA 495.”

COMMITTEE STATEMENT: With regard to items 1 and 2 of the committee action, the committee accepted the changes recommended by the submitter and provided some editorial corrections. With regard to items 3, 4 and 5 of the committee action, the committee accepted recommendations from the Technical Committee on Explosives regarding the maximum allowable quantity of explosives for the occupancies indicated. The Technical Committee on Explosives met the week of October 26, 2004 to consider these maximum allowable quantities, and the associated information was included in the Supplemental Agenda Attachments for BLD-IND.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Abstain: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
FLUER: The proposal was submitted by Fluor, Inc. on behalf of the Automotive Occupant Restraint Council (AORC). Fluor, Inc. represents the Compressed Gas Association (CGA) on the Industrial, Storage and Miscellaneous Occupancies committee. The abstention is made to address what might be viewed as a potential conflict of interest under Section 3-3(e) of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process although the interest category of each organization may in fact be similarly classified.

5000-639 Log #507 BLD-IND FINAL ACTION: Accept in Principle (Table 34.1.3.2(d), Note (e))
SUBMITTER: Bruce J. Swiecicki, National Propane Gas Association
COMMENT ON PROPOSAL NO: 5000-893
RECOMMENDATION: Add Note (e) as follows:
(e) Storage in laboratories only; additional 20 lb units permitted where minimum 20 ft separation is provided.
SUBSTANTIATION: This change will correlate NFPA 5000 with provisions in NFPA 58-2004.
COMMITTEE MEETING ACTION: Accept in Principle
1. Add the footnote as recommended by the submitter.
2. Add the footnote reference “e” to the term “Liquefied” in the row entitled “Flammable Gas”.

COMMITTEE STATEMENT: Editorial change indicating how the footnote is to be referenced in the table, and the conditions under which the footnote applies.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Abstain: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
SHAPIRO: New client interest not associated with the interest that I represent on the committee that will be affected by this comment.

5000-641 Log #509 BLD-IND FINAL ACTION: Accept in Principle (Table 34.1.3.2(h))
SUBMITTER: Bruce J. Swiecicki, National Propane Gas Association
COMMENT ON PROPOSAL NO: 5000-893
RECOMMENDATION: Add Note (e) as follows:
(e) Storage containers shall not exceed 2.7 lb water capacity.
SUBSTANTIATION: This change will correlate NFPA 5000 with provisions in NFPA 58-2004.
COMMITTEE MEETING ACTION: Accept in Principle
1. Add the footnote as recommended by the submitter.
2. Add the footnote reference “e” to the term “Liquefied” in the row entitled “Flammable Gas”.

COMMITTEE STATEMENT: Editorial change indicating how the footnote is to be referenced in the table.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Abstain: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
SHAPIRO: New client interest not associated with the interest that I represent on the committee that will be affected by this comment.

5000-642 Log #181 BLD-IND FINAL ACTION: Accept in Principle (34.1.3.2x (New))
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-901
RECOMMENDATION: Give consideration to Taber’s comment on abstention so as to make any needed changes.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
No action needed.
COMMITTEE STATEMENT: The revisions proposed by the submitter have already been included in the draft of Chapter 34 as indicated on page 5000-514 in the ROP.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Abstain: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
MCLAUGHLIN: I am abstaining because I am the proponent for a client other that the organization I represent on the Committee.

5000-643 Log #515 BLD-IND FINAL ACTION: Accept in Principle (34.1.3.2.2)
COMMENT ON PROPOSAL NO: 5000-904
RECOMMENDATION: Reject the proposal.
SUBSTANTIATION: I agree with some of the opposition comments expressed in the negative ballots of other committee members on Proposal 5000-912.
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-647.
COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-647.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-644 Log #563 BLD-IND FINAL ACTION: Accept in Principle (34.1.3.2.3)
COMMENT ON PROPOSAL NO: 5000-906
RECOMMENDATION: The reference to Table 34.1.3.3.1 in Section 34.1.3.3.1 of the preliminary ballot needs to be updated. The committee action split this table into two separate tables (a) and (b), both of which need to be referenced in Section 34.1.3.3.1.
COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The revisions proposed by the submitter have already been included in the draft of Chapter 34 as indicated on page 5000-518 in the ROP.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4  DOODY, GARRETT, RAJ, WREN

COMMITTEE STATEMENT:

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation. See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is in agreement with Shapiro’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-926
RECOMMENDATION: Give consideration to Ordille’s and Tabar’s explanation of negative so as to make any needed changes.
SUBSTANTIATION: See above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
Revise 34.3.2.5.3(D) as indicated on page 5000-523 of the ROP to read as follows:
“(D) Where required by NFPA 30, Secondary containment shall be by drainage control where required by NFPA 30.”
COMMITTEE STATEMENT: This action meets the intent of the submittor and better clarifies the conditions under which drainage control must serve as the form of secondary containment.
NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Abstain: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
MCLAUGHLIN: I am abstaining because I have a client, other than the organization I represent on the Committee, who may be impacted by the proposal.

COMMENT ON PROPOSAL NO: 5000-936
RECOMMENDATION: Reject the proposal.
SUBSTANTIATION: I agree with some of the opposition comments expressed in the negative ballots of other committee members, and I also agree with Mr. Ordille that there are some issues with respect to intent and terminology that need to be worked out so that the intent of the committee and the code is clearly conveyed to the user. I would also like to see what NFPA 30 does with this issue during the current cycle, which may or may not agree with the proposal as it currently appears in the NFPA 5000 ROP.
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action and Statement for Comment 5000-651.
COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-651.
NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25 Abstain: 4
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
DOODY, GARRETT, RAJ, WREN: We are abstaining because we are not in agreement with the proposal.

COMMITTEE STATEMENT: The changes are in response to remarks made by various committee members during the balloting of proposal 5000-932. The title of section 34.3.5.5 was revised to reflect the committee’s intent that the provisions are intended to apply to unsprinklered facilities as well as those facilities that have inadequate systems with respect to the associated fire hazard. The provisions were revised to indicate that a detached unprotected building is only permitted when specifically approved by the AHJ, and only under those conditions where adequate water supply for the facility cannot be obtained and a risk assessment indicates that the loss of the facility and its contents coupled with the subsequent environmental impact would be acceptable to the community at large. The separation distances for buildings with specific occupancies were revised based upon the committee’s understanding of the subject. The committee also provided further explanation of the concept of “protection of exposures”.
NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 24 Abstain: 1
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN
EXPLANATION OF ABSTENTION:
MCLAUGHLIN: I am abstaining because I have a client, other than the organization I represent on the Committee, who may be impacted by the proposal.
TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE. See TCC action on 5000-656. The TCC notes that the submitter did address an omission that was of concern to IND.

SUBMITTER: Wayne D. Holmes, HSB Professional Loss Control

COMMENT ON PROPOSAL NO: 5000-939

RECOMMENDATION: Reconsider and accept submitter’s proposal.

SUBSTANTIATION: The proposed text simply provides an area equivalency for ease of use of the requirement. The proposed text is nominally equivalent to the area of the specified 10-in. diameter duct. (78.5 sq in. vs. 80 sq in.). The proposed text provides for a sprinkler requirement for exhaust ducts for RPM other than cylindrical ducts, which is consistent with current practices. (Note that the current text of 5000-34.3.7.8.2(1) is incorrect. The intent is not a “cross sectional diameter” but rather a “cross sectional area”.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-656.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 23 Negative: 2

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

HOLMES: The intent of 34.3.7.8.2(1) is to have automatic sprinkler protection provided within all ducts of a certain minimum size. Unfortunately, as originally drafted, this paragraph would only apply to circular ducts. Automatic sprinkler protection is needed to protect both circular and rectangular ducts. The proposed change would correct this omission and require sprinkler protection for rectangular ducts equivalent in size to a 10-inch diameter circular duct. This is a very simple concept and is needed to provide adequate protection of all ducts, not just circular ducts. The hazard remains constant whether the duct is circular or rectangular. The Committee Statement to justify the rejection of Comment 5000-565 on the geometry and airflow has nothing to do with the need for sprinkler protection.

The Comment should be accepted and 5000-34.3.7.8.2(1) should be revised.

SKALKO: I agree with the reasons given in the statement by Holmes for his negative on this item.

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT IN PRINCIPLE. See TCC action on 5000-656. The TCC notes that the submitter did address an omission that was of concern to IND.

SUBMITTER: Wayne D. Holmes, HSB Professional Loss Control

COMMENT ON PROPOSAL NO: 5000-939

RECOMMENDATION: Reconsider and accept submitter’s proposal.

SUBSTANTIATION: The proposed text simply provides an area equivalency for ease of use of the requirement. The proposed text is nominally equivalent to the area of the specified 10-in. diameter duct. (78.5 sq in. vs. 80 sq in.). The proposed text provides for a sprinkler requirement for exhaust ducts for RPM other than cylindrical ducts, which is consistent with current practices. (Note that the current text of 5000-34.3.7.8.2(1) is incorrect. The intent is not a “cross sectional diameter” but rather a “cross sectional area”.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See Committee Action and Statement for Comment 5000-656.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 23 Negative: 2

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

HOLMES: The intent of 34.3.7.8.3 is to have automatic sprinkler protection provided within all ducts of a certain minimum size. Unfortunately, as originally drafted, this paragraph would only apply to circular ducts. Automatic sprinkler protection is needed to protect both circular and rectangular ducts. The proposed change would correct this omission and require sprinkler protection for rectangular ducts equivalent in size to a 10-inch diameter circular duct. This is a very simple concept and is needed to provide adequate protection of all ducts, not just circular ducts. The hazard remains constant whether the duct is circular or rectangular. The Committee Statement to justify the rejection of Comment 5000-565 on the geometry and airflow has nothing to do with the need for sprinkler protection.

The Comment should be accepted and 5000-34.3.7.8.3 should be revised.

SKALKO: I agree with the reasons given in the statement by Holmes for his negative on this item.
5000-659a Log #CC13 BLD-STR

FINAL ACTION: Accept in Part (35.3)

SUBMITTER: Technical Committee on Structures and Construction

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: Modify 35.1.2.8.5 as follows:

SUBSTANTIATION: This corrects the title of the new edition of the aluminum design standard, which has been updated in Chapter 2.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE:
NACHCMAHN: See my Affirmative with Comment on 5000-4.

5000-660a Log #CC708 BLD-IND

FINAL ACTION: Accept in Part (35.3)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be changed from REJECT to “ACCEPT IN PART – See the committee action on 5000-660.”

SUBMITTER: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

COMMENT ON PROPOSAL NO: 5000-942

RECOMMENDATION: Add new text as follows:
35.3 Occupancy Category. For the purposes of determining the loads for use in the structural design thereof, all buildings and other structures shall be assigned an occupancy category in accordance with Table 35.3.

SUBSTANTIATION: The purpose of this comment is to update the applicable provisions of NFPA 5000 to ASCE 7-05. Currently, the occupancy category table is based on ASCE 7-02. The following comment in combination with a separate comment that updates the reference publications from ASCE 7-02 to ASCE 7-05 will make the occupancy categories of the 2006 Edition of NFPA 5000 consistent with those in ASCE 7-05. This comment also proposes that the Multiple Uses requirement in Annex A35.10.2 (ASCE 7-02 9.1.3.4) be moved to 35.3 so that the provision applies to wind and snow classifications as well as seismic. In the seismic provisions of the 2005 edition of ASCE 7 the term “Seismic Use Groups” is no longer used hence to be consistent with the referenced standard it is important to remove this term from the annex and link the determination of the Importance Factor directly with the nature of the occupancy. Seismic Use Groups are proposed to be deleted in a companion comment.

COMMITTEE MEETING ACTION: Reject

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE:
NACHCMAHN: See my Affirmative with Comment on 5000-4.
Table 35.3  Occupancy Category of Buildings and Other Structures for Wind, Snow, and Earthquake

<table>
<thead>
<tr>
<th>Nature of Occupancy</th>
<th>Occupancy Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Buildings and other structures that represent a low hazard to human life in the event of failure including, but not limited to, the following:</td>
<td>I</td>
</tr>
<tr>
<td>(1) Agricultural facilities</td>
<td></td>
</tr>
<tr>
<td>(2) Certain temporary facilities</td>
<td></td>
</tr>
<tr>
<td>(3) Minor storage facilities</td>
<td></td>
</tr>
<tr>
<td>B. All buildings and other structures except those listed in Occupancy Categories I, III, and IV</td>
<td>II</td>
</tr>
<tr>
<td>C. Buildings and other structures that represent a substantial hazard to human life in the event of failure including, but not limited to, the following:</td>
<td>III</td>
</tr>
<tr>
<td>(1) Buildings and other structures where more than 300 people congregate in one area</td>
<td></td>
</tr>
<tr>
<td>(2) Buildings and other structures with day-care facilities with a capacity greater than 150</td>
<td></td>
</tr>
<tr>
<td>(3) Buildings and other structures with elementary school or secondary school with a capacity greater than 250</td>
<td></td>
</tr>
<tr>
<td>(4) Buildings and other structures with a capacity greater than 500 for colleges or adult education facilities</td>
<td></td>
</tr>
<tr>
<td>(5) Health care facilities with a capacity of 30 or more resident patients but that do not have surgery or emergency treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(6) Jails and detention facilities</td>
<td></td>
</tr>
<tr>
<td>D. Buildings and other structures, not included in Occupancy Category IV, with potential to cause a substantial economic impact and/or mass disruption of day-to-day civilian life in the event of failure including, but not limited to:</td>
<td>IV</td>
</tr>
<tr>
<td>(1) Power-generating stations and other public utility facilities not included in Occupancy Category IV</td>
<td></td>
</tr>
<tr>
<td>(2) Water treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(3) Sewage treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(4) Telecommunication centers</td>
<td></td>
</tr>
<tr>
<td>E. Buildings containing toxic gases that are required to comply with Protection Level 4 or Protection Level 5 in accordance with Chapter 34.</td>
<td>IV</td>
</tr>
<tr>
<td>F. Buildings and other structures containing toxic or explosive substances hazardous materials (toxic, explosive, or other hazardous substances) are eligible for classification as Category II structures if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.2 of ASCE 7 that a release of the toxic or explosive substance hazardous material does not pose a threat to the public.</td>
<td>IV</td>
</tr>
<tr>
<td>(1) Hospitals and other health care facilities having surgery or emergency treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(2) Fire, rescue, and police stations and emergency vehicle garages</td>
<td></td>
</tr>
<tr>
<td>(3) Designated earthquake, hurricane, or other emergency shelters</td>
<td></td>
</tr>
<tr>
<td>(4) Designated emergency preparedness, communications, and operations centers and other facilities required for emergency response</td>
<td></td>
</tr>
<tr>
<td>(5) Power-generating stations and other public utility facilities required in an emergency</td>
<td></td>
</tr>
<tr>
<td>(6) Ancillary structures (including, but not limited to, communications towers, fuel storage tanks, cooling towers, electrical substation structures, fire water storage tanks, or other structures housing or supporting water or other fire suppression material or equipment) required for operation of Occupancy Category IV structures during an emergency</td>
<td></td>
</tr>
<tr>
<td>(7) Aviation control towers, air traffic control centers, and emergency aircraft hangars</td>
<td></td>
</tr>
<tr>
<td>(8) Water storage facilities and pump structures required to maintain water pressure for fire suppression</td>
<td></td>
</tr>
<tr>
<td>(9) Buildings and other structures having critical national defense functions</td>
<td></td>
</tr>
<tr>
<td>H. Buildings and other structures containing toxic or explosive substances extremely hazardous materials (toxic, explosive, or other hazardous substances) are eligible for classification as Occupancy Category II structures if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.2. of ASCE 7 that a release of the toxic or explosive substances extremely hazardous material does not pose a threat to the public. This reduced classification shall not be permitted if the building or other structures also function as essential facilities.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Extracted from ASCE 7.
Table 35.3 Occupancy Category of Buildings and Other Structures for Wind, Snow, and Earthquake

<table>
<thead>
<tr>
<th>Nature of Occupancy</th>
<th>Occupancy Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Buildings and other structures that represent a low hazard to human life in the</td>
<td></td>
</tr>
<tr>
<td>event of failure including, but not limited to, the following:</td>
<td>I</td>
</tr>
<tr>
<td>(1) Agricultural facilities</td>
<td></td>
</tr>
<tr>
<td>(2) Certain temporary facilities</td>
<td></td>
</tr>
<tr>
<td>(3) Minor storage facilities</td>
<td></td>
</tr>
<tr>
<td>B. All buildings and other structures except those listed in Occupancy Categories</td>
<td>II</td>
</tr>
<tr>
<td>I, III, and IV</td>
<td></td>
</tr>
<tr>
<td>C. Buildings and other structures that represent a substantial hazard to human</td>
<td>III</td>
</tr>
<tr>
<td>life in the event of failure including, but not limited to, the following:</td>
<td></td>
</tr>
<tr>
<td>(1) Buildings and other structures where more than 300 people congregate in one</td>
<td></td>
</tr>
<tr>
<td>area</td>
<td></td>
</tr>
<tr>
<td>(2) Buildings and other structures with day-care facilities with a capacity greater</td>
<td></td>
</tr>
<tr>
<td>than 150</td>
<td></td>
</tr>
<tr>
<td>(3) Buildings and other structures with elementary school or secondary school with</td>
<td></td>
</tr>
<tr>
<td>a capacity greater than 250</td>
<td></td>
</tr>
<tr>
<td>(4) Buildings and other structures with a capacity greater than 500 for colleges</td>
<td></td>
</tr>
<tr>
<td>or adult education facilities</td>
<td></td>
</tr>
<tr>
<td>(5) Health care facilities with a capacity of 50 or more resident patients but</td>
<td></td>
</tr>
<tr>
<td>that do not have surgery or emergency treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(6) Jails and detention facilities</td>
<td></td>
</tr>
<tr>
<td>B. Buildings and other structures, not included in Occupancy Category IV, with</td>
<td></td>
</tr>
<tr>
<td>potential to cause a substantial economic impact and/or mass disruption of day-to-</td>
<td></td>
</tr>
<tr>
<td>day civilian life in the event of failure including, but not limited to:</td>
<td></td>
</tr>
<tr>
<td>(1) Power-generating stations and other public utility facilities not included in</td>
<td></td>
</tr>
<tr>
<td>Occupancy Category IV</td>
<td></td>
</tr>
<tr>
<td>(2) Water treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(3) Sewage treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(4) Telecommunication centers</td>
<td></td>
</tr>
<tr>
<td>C. Buildings and other structures designated as essential facilities including, but</td>
<td>IV</td>
</tr>
<tr>
<td>not limited to, the following:</td>
<td></td>
</tr>
<tr>
<td>(1) Hospitals and other health care facilities having surgery or emergency</td>
<td></td>
</tr>
<tr>
<td>treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(2) Fire, rescue, and police stations and emergency vehicle garages</td>
<td></td>
</tr>
<tr>
<td>(3) Designated emergency preparedness, communications, and operations centers and</td>
<td></td>
</tr>
<tr>
<td>other facilities required for emergency response</td>
<td></td>
</tr>
<tr>
<td>(4) Designated emergency preparedness, communications, and operations centers and</td>
<td></td>
</tr>
<tr>
<td>other facilities required for emergency response</td>
<td></td>
</tr>
<tr>
<td>(5) Ancillary stations and other public utility facilities required in an emergency</td>
<td></td>
</tr>
<tr>
<td>(6) Aviation control towers, air traffic control centers, and emergency aircraft</td>
<td></td>
</tr>
<tr>
<td>hangars</td>
<td></td>
</tr>
<tr>
<td>(7) Water storage facilities and pump structures required to maintain water pressure</td>
<td></td>
</tr>
<tr>
<td>for fire suppression</td>
<td></td>
</tr>
<tr>
<td>(8) Buildings and other structures having critical national defense functions</td>
<td></td>
</tr>
<tr>
<td>(9) Buildings and other structures containing highly toxic gases that are required</td>
<td></td>
</tr>
<tr>
<td>to comply with Protection Level 4 or Protection Level 5 in accordance with Chapter</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
</tr>
<tr>
<td>D. Buildings containing toxic gases that are required to comply with Protection</td>
<td></td>
</tr>
<tr>
<td>Level 4 or Protection Level 5 in accordance with Chapter 34, and buildings</td>
<td></td>
</tr>
<tr>
<td>containing materials that are capable of detonation or deflagration that are</td>
<td></td>
</tr>
<tr>
<td>required to comply with Protection Level 1 or Protection Level 5 in accordance with</td>
<td></td>
</tr>
<tr>
<td>Chapter 34</td>
<td></td>
</tr>
<tr>
<td>E. Buildings containing toxic or explosive substances hazardous materials (toxic,</td>
<td></td>
</tr>
<tr>
<td>explosive, or other hazardous substances) are eligible for classification as</td>
<td></td>
</tr>
<tr>
<td>Category II structures if it can be demonstrated to the satisfaction of the</td>
<td></td>
</tr>
<tr>
<td>authority having jurisdiction by a hazard assessment as described in Section 1.5.2</td>
<td></td>
</tr>
<tr>
<td>of ASCE 7 that a release of the toxic or explosive substance hazardous material</td>
<td></td>
</tr>
<tr>
<td>does not pose a threat to the public.</td>
<td></td>
</tr>
<tr>
<td>F. Buildings and other structures containing toxic or explosive substances</td>
<td></td>
</tr>
<tr>
<td>hazardous materials (toxic, explosive, or other hazardous substances) are eligible</td>
<td></td>
</tr>
<tr>
<td>for classification as Category II structures if it can be demonstrated to the</td>
<td></td>
</tr>
<tr>
<td>satisfaction of the authority having jurisdiction by a hazard assessment as</td>
<td></td>
</tr>
<tr>
<td>described in Section 1.5.2 of ASCE 7 that a release of the toxic or explosive</td>
<td></td>
</tr>
<tr>
<td>substances hazardous material does not pose a threat to the public.</td>
<td></td>
</tr>
<tr>
<td>G. Buildings and other structures designated as essential facilities including, but</td>
<td></td>
</tr>
<tr>
<td>not limited to, the following:</td>
<td></td>
</tr>
<tr>
<td>(1) Hospitals and other health care facilities having surgery or emergency</td>
<td></td>
</tr>
<tr>
<td>treatment facilities</td>
<td></td>
</tr>
<tr>
<td>(2) Fire, rescue, and police stations and emergency vehicle garages</td>
<td></td>
</tr>
<tr>
<td>(3) Designated earthquake, hurricane, or other emergency shelters</td>
<td></td>
</tr>
<tr>
<td>(4) Designated emergency preparedness, communications, and operations centers and</td>
<td></td>
</tr>
<tr>
<td>other facilities required for emergency response</td>
<td></td>
</tr>
<tr>
<td>(5) Ancillary stations and other public utility facilities required in an emergency</td>
<td></td>
</tr>
<tr>
<td>(6) Aviation control towers, air traffic control centers, and emergency aircraft</td>
<td></td>
</tr>
<tr>
<td>hangars</td>
<td></td>
</tr>
<tr>
<td>(7) Water storage facilities and pump structures required to maintain water pressure</td>
<td></td>
</tr>
<tr>
<td>for fire suppression</td>
<td></td>
</tr>
<tr>
<td>(8) Buildings and other structures containing critical national defense functions</td>
<td></td>
</tr>
<tr>
<td>(9) Buildings and other structures containing toxic gases that are required to</td>
<td></td>
</tr>
<tr>
<td>comply with Protection Level 4 or Protection Level 5 in accordance with Chapter 34</td>
<td></td>
</tr>
<tr>
<td>that can be demonstrated to the satisfaction of the authority having jurisdiction</td>
<td></td>
</tr>
<tr>
<td>by a hazard assessment as described in Section 1.5.2 of ASCE 7 that a release of</td>
<td></td>
</tr>
<tr>
<td>the toxic or explosive substances does not pose a threat to the public. This</td>
<td></td>
</tr>
<tr>
<td>reduced classification shall not be permitted if the building or other structures</td>
<td></td>
</tr>
<tr>
<td>also function as essential facilities.</td>
<td></td>
</tr>
</tbody>
</table>

1. Cogeneration power plants that do not supply power on the national grid shall be designated Category II.

Source: Extracted from ASCE 7.
COMMITTEE STATEMENT: The committee comment has been generated in response to the action and committee statement submitted by BLD-STR on comment 5000-660. The recommendation and substantiation in this committee comment are the same as in comment 5000-660. BLD-IND recommends rejection of comment 5000-660. The Correlating Committee should not accept the comment 5000-660 as recommended by BLD-STR and the text as currently worded in the 2003 edition of NFPA 5000 should remain.

No technical substantiation other than coordination with ASCE 7 has been offered. BLD-IND is not confident that ASCE 7 adequately addresses hazardous materials, and notes that ASCE 7 and NFPA 5000 appear to address and define hazardous materials in differing ways. The proposed table uses the terms toxic and explosive materials as opposed to the hazard classifications and definitions included in NFPA 5000. Additionally, the terms explosive materials and toxic materials are not defined with respect to the context in which they are to be used in conjunction with the proposed table. BLD-IND also notes that the proposed table and the associated requirements could be interpreted as being less restrictive for materials that present greater hazards. For example the term toxic as used in the proposed table does not appear to encompass what NFPA 5000 considers as highly toxic materials, and therefore compliance with the proposed table is not required. BLD-IND believes that the proposed revisions include new material encompassing substantial changes that have not had sufficient time for proper review by either the public or the committee. BLD-IND notes that final version of ASCE 7 was not published at the time this comment was considered.

NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-662 Log #357 BLD-STR

FINAL ACTION: Accept
(35.6)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to “ACCEPT- Revise the reference to recognize the 2005 edition of ASCE 7 and to accept the language in the recommendation. The TCC was provided with a summary of changes of the 2005 edition of ASCE 7 and to accept the language in the recommendation.

The TCC was provided with a summary of changes of the 2005 edition of ASCE 7. This was not available during the ROC preparation meeting of BLD-STR.

SUBMITTER: James A. Rossberg, Structural Engineering Institute of ASCE

COMMENT ON PROPOSAL NO: 5000-942

RECOMMENDATION: Revise text as follows:

Item 1

35.6 Live Loads.
35.6.2.3.1 Partitions shall meet the requirements of 35.6.2.3.1.1 and 35.6.2.3.1.2.
35.6.2.3.1.1 In office buildings or other buildings where partitions will be erected or rearranged, provision for partition weight shall be made, regardless of whether partitions are shown on the plans. Partition load shall not be less than 15 psf.
35.6.2.3.1.2 The requirement of 35.6.2.3.1.1 shall not apply where the specified live load exceeds 80 psf (3.83 kN/m2).
35.6.7 Reduction in Live Loads.
35.6.7.1 Reductions in the minimum required design live load, except for roof uniform live loads, shall be permitted in accordance with Section 4.8 of ASCE 7.
35.6.7.2 Reductions in the minimum design roof uniform live loads shall be permitted in accordance with Section 4.9 of ASCE 7.
35.7 Minimum Roof Live Loads.
35.7.2.1 Ordinary roofs, either flat, pitched, or curved, shall be designed for the live loads as specified in Table 4-1 Section 4.9 of ASCE 7.
35.7.4 Special-Purpose Roofs.
35.7.4.1 Landscaped roofs shall meet the requirements of 35.7.4.1.1 and 35.7.4.1.2.
35.7.4.1.1 Where roofs are to be landscaped, the uniform design live load in the landscaped area shall be 20 psf (0.96 kN/m2).
35.7.4.1.2 The weight of the landscaping materials shall be considered as dead load and shall be computed on the basis of saturation of the soil.
35.7.4.2 Where awnings and canopies are covered with a fabric material and are supported by a lightweight rigid skeleton structure, such awnings and canopies shall be designed on a non-reducible table with a static load of 5 psf (0.24 kN/m2), as well as for snow loads and wind loads as specified in Section 35.8 and Section 35.9.
35.7.4.3 Roofs to be utilized for other special purposes shall be designed for all loads as necessary for the intended use, or as otherwise approved.
<table>
<thead>
<tr>
<th>Occupancy or Use</th>
<th>Uniform ( psf ) (kN/m(^2))</th>
<th>Conc. lbs. (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartments (see residential)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access floor systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office use</td>
<td>50 (2.4)</td>
<td>2,000 (8.9)</td>
</tr>
<tr>
<td>Computer use</td>
<td>100 (4.79)</td>
<td>2,000 (8.9)</td>
</tr>
<tr>
<td>Armories and drill rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assembly areas and theaters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed seats (fastened to floors)</td>
<td>60 (2.87)</td>
<td></td>
</tr>
<tr>
<td>Lobbies</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Movables seats</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Platforms (assembly)</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Stage floors</td>
<td>150 (7.18)</td>
<td></td>
</tr>
<tr>
<td>Balconies (exterior)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On one- and two-family residences only, and not exceeding 100 ft(^2) (9.3 m(^2))</td>
<td>60 (2.87)</td>
<td></td>
</tr>
<tr>
<td>Bowling alleys, poolrooms and similar recreational areas</td>
<td>130 (7.18)</td>
<td></td>
</tr>
<tr>
<td>Catwalks for maintenance access</td>
<td>40 (1.92)</td>
<td>300 (1.33)</td>
</tr>
<tr>
<td>Corridors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First floor</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Other floors, same as occupancy served except as indicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance halls and ballrooms</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Decks (patio and roof)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same as area served, or for the type of occupancy accommodated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining rooms and restaurants</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Dwellings (see residential)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevator machine room grating [on area of 4 in.(^2) (2,580 mm(^2))]</td>
<td>300 (1.33)</td>
<td></td>
</tr>
<tr>
<td>Finish light floor plate construction [on area of 1 in.(^2) (645 mm(^2))]</td>
<td>200 (0.89)</td>
<td></td>
</tr>
<tr>
<td>Fire escapes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On single-family dwellings only</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Fixed Ladders</td>
<td>40 (2.92)</td>
<td></td>
</tr>
<tr>
<td>Garages (passenger vehicles only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trucks and buses</td>
<td>40 (1.92)</td>
<td>Note 1</td>
</tr>
<tr>
<td>Note 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grandstands (see stadium and arena bleachers)</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Gymnasiums, main floors and balconies</td>
<td>100 (4.79)</td>
<td>Note 1</td>
</tr>
<tr>
<td>Handrails, guardrails and grab bars</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Libraries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating rooms, laboratories</td>
<td>60 (2.87)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Patient rooms</td>
<td>40 (1.92)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Wards</td>
<td>100 (4.79)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Corridors above first floor</td>
<td>40 (1.92)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Hotels (see residential)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Libraries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading rooms</td>
<td>60 (2.87)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Stack rooms</td>
<td>150 (7.18)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Corridors above first floor</td>
<td>80 (3.83)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light</td>
<td>125 (6.00)</td>
<td>2,000 (8.90)</td>
</tr>
<tr>
<td>Heavy</td>
<td>250 (11.97)</td>
<td>3,000 (13.40)</td>
</tr>
<tr>
<td>Marquees and Canopies</td>
<td>75 (3.59)</td>
<td></td>
</tr>
<tr>
<td>Office Buildings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>File and computer rooms shall be designed for heavier loads based on anticipated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>occupancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobbies</td>
<td>100 (4.79)</td>
<td>2,000 (8.90)</td>
</tr>
<tr>
<td>Offices</td>
<td>50 (2.40)</td>
<td>2,000 (8.90)</td>
</tr>
<tr>
<td>Corridors above first floor</td>
<td>80 (3.83)</td>
<td>2,000 (8.90)</td>
</tr>
<tr>
<td>Penal Institutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell blocks</td>
<td>40 (1.92)</td>
<td></td>
</tr>
<tr>
<td>Corridors</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dwellings (one- and two-family)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninhabitable attics without storage</td>
<td>10 (0.49)</td>
<td></td>
</tr>
<tr>
<td>Uninhabitable attics with storage</td>
<td>20 (0.96)</td>
<td></td>
</tr>
<tr>
<td>Habitable attics and sleeping areas</td>
<td>30 (1.44)</td>
<td></td>
</tr>
<tr>
<td>All other areas except stairs and balconies</td>
<td>40 (1.92)</td>
<td></td>
</tr>
<tr>
<td>Hotels and multifamily houses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private rooms and corridors serving them</td>
<td>40 (1.92)</td>
<td></td>
</tr>
<tr>
<td>Public rooms and corridors serving them</td>
<td>100 (4.79)</td>
<td></td>
</tr>
<tr>
<td>Reviewing stands, grandstands and bleachers</td>
<td>100 (4.79)</td>
<td>Note 4</td>
</tr>
<tr>
<td>Roofs</td>
<td>100 (4.79)</td>
<td>See Sections 4.3 and 4.9</td>
</tr>
<tr>
<td>Note 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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5000-276
Table A.35.6.1.2 Minimum Uniformly Distributed Live Loads, $L_o$, and Minimum Concentrated Live Loads (continued)

<table>
<thead>
<tr>
<th>Occupancy or Use</th>
<th>Uniform psf (kN/m²)</th>
<th>Conc. lbs. (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary flat, pitched, and curved roofs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roofs used for promenade purposes</td>
<td>20 (0.96) Note 8</td>
<td></td>
</tr>
<tr>
<td>Roofs used for roof gardens or assembly purposes</td>
<td>60 (2.87)</td>
<td></td>
</tr>
<tr>
<td>Roofs used for other special purposes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awnings and canopies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fabric construction supported by a lightweight rigid skeleton structure</td>
<td>20 (0.96) Note 8</td>
<td></td>
</tr>
<tr>
<td>All other construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary roof members, exposed to a work floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single panel point of lower chord of roof trusses or any point along primary structural members supporting roofs over manufacturing, storage warehouses, and repair garages</td>
<td>2000 (8.9)</td>
<td></td>
</tr>
<tr>
<td>All other occupancies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All roof surfaces subject to maintenance workers</td>
<td>300 (1.33)</td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classrooms</td>
<td>40 (1.92)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Corridors above first floor</td>
<td>80 (3.83)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>First floor corridors</td>
<td>100 (4.79)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Scuttles, skylight ribs, accessible ceilings</td>
<td>200 (0.89)</td>
<td></td>
</tr>
<tr>
<td>Sidewalks, vehicular driveways, and yards, subject to trucking</td>
<td>250 (11.97)</td>
<td>8,000 (35.60) Note 6</td>
</tr>
<tr>
<td>Staircases and exitways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One- and two-family residences only</td>
<td>100 (4.79)</td>
<td>40 (1.92)</td>
</tr>
<tr>
<td>Storage areas above ceilings</td>
<td>20 (0.96)</td>
<td></td>
</tr>
<tr>
<td>Storage warehouse (shall be designed for heavier loads if required for anticipated storage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light</td>
<td>125 (6.00)</td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td>250 (11.97)</td>
<td></td>
</tr>
<tr>
<td>Stores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Floor</td>
<td>100 (4.79)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Upper Floors</td>
<td>75 (3.59)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Wholesale, floors</td>
<td>125 (6.00)</td>
<td>1,000 (4.45)</td>
</tr>
<tr>
<td>Vehicle Barriers</td>
<td>See Section 4.4</td>
<td></td>
</tr>
<tr>
<td>Walkways and elevated platforms (other than exitways)</td>
<td>60 (2.87)</td>
<td></td>
</tr>
<tr>
<td>Yards terraces, pedestrians</td>
<td>100 (4.79)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for uniformly distributed live loads of Table 4.1 (Table A.35.6.1.2) or the following concentrated load: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3000 lb (13.53 kN) acting on an area of 4.5 in. by 4.5 in. (114 mm by 114 mm, footprint of a jack); (2) for mechanical parking structures without slab or deck which are used for storing passenger cars only, 2250 lb (10 kN) per wheel.

2. Garages accommodating trucks and buses shall be designed in accordance with an approved method which contains provisions for truck and bus loadings.

3. The loading applies to stack room floors that support non-mobile, double-faced library bookstacks, subject to the following limitations:
   a. The nominal bookstack unit height shall not exceed 90 in. (2290 mm)
   b. The nominal shelf depth shall not exceed 12 in. (305 mm) for each face; and
   c. Parallel rows of double-faced bookstacks shall be separated by aisles not less than 36 in. (914 mm) wide.

4. In addition to the vertical live loads, the design shall include horizontal swaying forces applied to each row of the seats as follows: 24 pounds per linear foot of seat applied in a direction parallel to each row of seats and 10 pounds per linear foot of seat applied in a direction perpendicular to each row of seats. The parallel and perpendicular horizontal swaying forces need not be applied simultaneously.

5. Other uniform loads in accordance with an approved method which contains provisions for truck loadings shall also be considered where appropriate.

6. The concentrated wheel load shall be applied on an area of 4.5 in. by 4.5 in. (114 mm by 114 mm, footprint of jack).  

7. Minimum concentrated load on stair treads (on area of 4 in.² (2580 mm²)) is 300 lbs (1.33 kN).

8. Where uniform roof live loads are reduced to less than 20 lb/ft² (0.96 kN/m²) in accordance with Section 4.9.1 and are applied to the design of structural members arranged so as to create continuity, the reduced roof live load shall be applied to adjacent spans or to alternate spans, whichever produces the greatest unfavorable effect.

9. Roofs used for other special purposes shall be designed for appropriate loads as approved by the authority having jurisdiction.  

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REPORT ON COMMENTS — Copyright, NFPA

Table A.35.8.4.2 Exposure Factor, I

<table>
<thead>
<tr>
<th>Terrain Category</th>
<th>Fully Exposed</th>
<th>Partially Exposed</th>
<th>Sheltered</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (see ASCE Section 6.5.1)</td>
<td>N/A</td>
<td>1.1</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>B (see ASCE Section 6.5.1)</td>
<td>0.9</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>C (see ASCE Section 6.5.1)</td>
<td>0.9</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>D (see ASCE Section 6.5.1)</td>
<td>0.9</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Above tree line in wind swept mountainous areas.</td>
<td>0.7</td>
<td>0.8</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

In Alaska, in areas where trees do not exist within a 2.5 mile (4 km) radius of the site.

The terrain category and roof exposure condition chosen shall be representative of the anticipated conditions during the life of the structure. An exposure factor shall be determined for each roof of a structure.

Definitions:

- Partially Exposed: Roofs exposed on all sides with no shelter afforded by terrain, higher structures, or trees.
- Fully Exposed: Roofs exposed on all sides with no shelter afforded by terrain, higher structures, or trees. Roofs that contain several large pieces of mechanical equipment, parapets which extend above the height of the balanced snow load (t), or other obstructions are not in this category.
- Sheltered: Roofs located tight in among conifer that qualify as obstructions.

Restrictions within a distance of 100’, provide “shelter,” where h = the height of the obstruction above the roof level. If the only obstructions are a few deciduous trees which are leafy in winter, the “fully-exposed” category shall be used except for terrain category “A.” Note that these heights above the roof. Heights used to establish the Terrain Category in Section 6.5.2 are heights above ground.

Source: Reprinted with permission from ASCE 7.

SUBSTANTIATION:
The purpose of this comment is to simplify the use of the snow load provisions by ensuring that the building code requirements are succinctly and unambiguously specified. Currently the code contains a partial set of snow load provisions that have been transcribed from the ASCE-7 standard. In practice this requires the designer and building official to refer to both the building code and standard simultaneously, when evaluating snow loads on structures. This practice is confusing and can lead to errors. Further, there is the risk that when transcription into the building code is made, errors or omissions may inadvertently occur, creating further confusing and leading to poor design. This will result in a reduction in volume of material contained in the code and the annex.

The determination of the ground snow load is proposed to be left in the annex which many building officials will wish to specify when adopting the model code by local ordinance.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since ASCE 7-05 will not be available until January 2005. However, if ASCE 7-05 was published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept.” Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE:

NACHMAN: See my Affirmative with Comment on 5000-4.

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to "ACCEPT" - Revise the reference to recognize the 2005 edition of ASCE 7 and to accept the language in the recommendation.

The TCC was provided with a summary of changes of the 2005 edition of this standard. This was not available during the ROC preparation meeting of BLD-STR.

SUBMITTER: Jim Rosberg, Structural Engineering Institute of ASCE

COMMENT ON PROPOSAL NO: 5000-942

RECOMMENDATION: Do not make this change. This will confuse many building officials when selecting exposure factors.

5000-663 Log #358 BLD-STR

FINAL ACTION: Accept (35.9)

5000-663 Log #358 BLD-STR

FINAL ACTION: Accept (35.9)

35.9 Wind Loads

35.9.1 All buildings, structures, and parts thereof shall be designed to withstand the appropriate wind loads prescribed herein.

35.9.1.2 Decreases in wind loads shall not be permitted to be made to account for the effect of shielding by other structures.

35.9.1.3 Determination of wind loads shall be in accordance with 35.9.1.3.1 and 35.9.1.3.2.

35.9.1.3.1 Wind loads on every building or structure shall be determined by the provisions of Section 6 of ASCE 7.

35.9.1.3.2 As an alternative to the requirement of 35.9.1.3.1, the following standards shall be permitted, subject to the limitations therein:

1. ANSI/NAAMM FP 1001, Guide Specifications for Design of Metal Flange Girders

(2) Wind tunnel tests conducted in accordance with Section 6.6 of ASCE 7

3. ANSI/ASTM A-222-F, Structural Standards for Steel Antenna Towers and Antenna Structures

4. Bleachers and grandstands per 35.9.1.6

35.9.1.4* For buildings or other structures situated such that they are subject to the channeling effects or buffeting in the wake of upwind obstructions, or for those buildings and other structures having unusual geometric shapes or response characteristics, wind loads shall be based on wind tunnel tests or nationally recognized data.

35.9.1.5 No part (component, cladding, or fastener) of a building or structure shall be designed for a wind load of less than 10 psf of 0.55 kPa.

35.9.1.6 Grandstands and bleachers shall meet the requirements of 35.9.1.6.1 and 35.9.1.6.2.

35.9.1.6.1 Uplift wind pressures equal in magnitude to those determined by 35.9.1.3.1 shall be assumed to be acting vertically on the gross horizontal projection of the closed-deck grandstand, the understructure of which is unenclosed.

35.9.1.6.2 Uplift wind pressures equal to 60 percent of these values in 35.9.1.6.1 shall be assumed to be acting vertically on the gross horizontal projection of the closed-deck grandstand, the understructure of which is enclosed at the perimeter with solid walls.

35.9.2 Basic Wind Speed

35.9.2.1 The basic wind speed used to calculate the wind loads shall be determined in accordance with Section 6.5.4 of ASCE 7.

35.9.2.2* When referenced documents are based on fastest-mile wind speeds, the 3-second gust wind velocities of ASCE 7, Figure 6-1-6, shall be converted to fastest-mile wind velocities using Table 35.9.2.2 the following equation.

\[ V(\text{mph}) = 
\]

Where:

\[ V(\text{mps}) = 3 \text{second gust basic wind speed from Figure 6-1 of ASCE 7} \]

Table 35.9.2.2 Wind Speed Conversion Table [m/hr (m/s)]

<table>
<thead>
<tr>
<th>3-Second Gust</th>
<th>Fastest Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 (38)</td>
<td>70 (113)</td>
</tr>
<tr>
<td>90 (40)</td>
<td>75 (121)</td>
</tr>
<tr>
<td>95 (45)</td>
<td>80 (130)</td>
</tr>
<tr>
<td>100 (45)</td>
<td>85 (135)</td>
</tr>
<tr>
<td>105 (47)</td>
<td>90 (150)</td>
</tr>
<tr>
<td>110 (49)</td>
<td>95 (157)</td>
</tr>
<tr>
<td>115 (54)</td>
<td>100 (170)</td>
</tr>
<tr>
<td>120 (54)</td>
<td>105 (183)</td>
</tr>
<tr>
<td>125 (56)</td>
<td>110 (196)</td>
</tr>
<tr>
<td>130 (58)</td>
<td>115 (210)</td>
</tr>
<tr>
<td>135 (63)</td>
<td>120 (225)</td>
</tr>
<tr>
<td>140 (63)</td>
<td>125 (240)</td>
</tr>
<tr>
<td>145 (65)</td>
<td>130 (255)</td>
</tr>
<tr>
<td>150 (67)</td>
<td>135 (270)</td>
</tr>
<tr>
<td>160 (72)</td>
<td>140 (285)</td>
</tr>
<tr>
<td>170 (76)</td>
<td>150 (300)</td>
</tr>
</tbody>
</table>

35.9.3* Exposure Category.

The appropriate wind exposure category shall be determined for each side of the building or structure consistent with the site terrain in accordance with Section 6.5.6 of ASCE 7.

35.9.4 Occupancy Category and Wind Importance Factor

35.9.4.1 Buildings and other structures shall be assigned an occupancy category in accordance with Table 35.3 to determine the wind load importance factor.

35.9.4.2* Buildings and other structures shall be assigned a wind load importance factor (I) in accordance with Section 6.5.5 of ASCE 7.
SUBSTANTIATION: The purpose of this comment is to update the applicable wind provisions of NFPA 5000 to ASCE 7-05. Currently, the wind provisions are based on ASCE 7-02. The following comment in combination with a separate comment that updates the reference publications from ASCE 7-02 to ASCE 7-05 will make the wind provisions of the 2006 Edition of NFPA 5000 consistent with those in ASCE 7-05.

Regarding the proposed changes to the conversions from 3-second gust to fastest-mile wind speeds in Table 35.9.2.2, this table was originally derived from the Durst curve depicted in Figure C6.1 of ASCE 7-98. For the 2002 edition of ASCE 7, the curve was replotted to more closely reflect the original work of C. S. Durst in 1960. This resulted in the new curve of Figure C6-2 of ASCE 7-02. Slight changes in the replotted curve cause changes in conversion wind speeds. In addition, the manner in which the original conversions were made for the 2003 Edition of NFPA 5000 (from fastest-mile to 3-second gust rather than vice versa) resulted in the values of fastest mile wind speeds being conservatively (lower than they should be). It was felt that in addition to having a table with conversion wind speeds, it would be advantageous to give an equation that allows conversion wind speed to be calculated. The following table illustrates the unconservative nature of the conversion values in the existing table.

<table>
<thead>
<tr>
<th>V_{base}</th>
<th>Calculated V_{ms}</th>
<th>2003 NFPA 5000 V_{ms}</th>
<th>Underdesign with present table*</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>71</td>
<td>70</td>
<td>3%</td>
</tr>
<tr>
<td>90</td>
<td>76</td>
<td>75</td>
<td>3%</td>
</tr>
<tr>
<td>100</td>
<td>85</td>
<td>80</td>
<td>11%</td>
</tr>
<tr>
<td>105</td>
<td>90</td>
<td>85</td>
<td>11%</td>
</tr>
<tr>
<td>110</td>
<td>95</td>
<td>90</td>
<td>10%</td>
</tr>
<tr>
<td>120</td>
<td>104</td>
<td>100</td>
<td>8%</td>
</tr>
<tr>
<td>125</td>
<td>109</td>
<td>105</td>
<td>7%</td>
</tr>
<tr>
<td>130</td>
<td>114</td>
<td>110</td>
<td>7%</td>
</tr>
<tr>
<td>140</td>
<td>123</td>
<td>120</td>
<td>5%</td>
</tr>
<tr>
<td>145</td>
<td>128</td>
<td>125</td>
<td>5%</td>
</tr>
<tr>
<td>150</td>
<td>133</td>
<td>130</td>
<td>4%</td>
</tr>
<tr>
<td>160</td>
<td>142</td>
<td>140</td>
<td>3%</td>
</tr>
<tr>
<td>170</td>
<td>152</td>
<td>150</td>
<td>3%</td>
</tr>
</tbody>
</table>

For example, the existing table gives the fastest mile wind speed of 80 mph for a 3-second gust speed of 100 mph. While the 5 mph increase being proposed may seem to be small, this translates into an increase of approximately 13% in the design wind pressure ((85/90)^2 = 1.129). Stated differently, the 5 mph error now contained in the code results in the design wind pressure being approximately 11.4% less than it should be.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since ASCE 7-05 will not be available until January 2005. However, if ASCE 7-05 is published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROBBERS, WIREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHMAN: See my Affirmative with Comment on 5000-4.

5000-664 Log #359 BLD-STR FINAL ACTION: Accept (35.10)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from REJECT to *ACCEPT- Refer the revision to recognize the 2005 edition of ASCE 7 and to accept the language in the recommendation.

The TCC was provided with a summary of changes of the 2005 edition of ASCE 7. The TCC, therefore, recommends a Committee Action of “Accept”. Consequently, the Technical Committee had to reject this comment, since ASCE 7-05 will not be available until January 2005. However, if ASCE 7-05 is published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

5000-279
35.2.30 Strength.

35.2.30.1 Nominal Strength. (1) In general, the capacity of a structure or member to resist the effects of loads, as determined by computations using specified material strengths and dimensions and formulas derived from accepted principles of structural mechanics or by field tests or laboratory tests of scaled models, allowing for modeling effects and differences between laboratory and field conditions. (2) For the purposes of earthquake loading, strength of a member or cross section calculated in accordance with the accepted principles of structural mechanics or by field tests or laboratory tests of scaled models, allowing for modeling effects and differences between laboratory and field conditions.

35.2.32 Structure. That which is built or constructed and limited to buildings and nonbuilding structures as defined herein. [ASCE 7: 11.2 9.2+4]

35.2.33 Wall. A component that has a slope of 60 degrees or greater with the horizontal plane used to enclose or divide space. [ASCE 7: 11.2 9.2+4]

35.2.33.1 Bearing Wall. Any wall meeting either of the following classifications: (1) Any metal or wood stud wall that supports more than 100 lb/linear ft (1400 N/m) of vertical load in addition to its own weight. (2) Any concrete or masonry wall that supports more than 200 lb/linear ft (2900 N/m) of vertical load in addition to its own weight. [ASCE 7: 11.2 9.2+4]

35.2.33.2 Bearing Wall System. A structural system with bearing walls providing support for all or major portions of the vertical loads. Shear walls or braced frames provide seismic force resistance. [ASCE 7: 11.2 9.2+4]

35.2.33.3 Cripple Wall. Short stud wall, less than 8 ft (2.4 m) in height, between the foundation and the lowest framed floors with studs not less than 14 in. (35 mm) long—also known as a knee wall. Cripple walls can occur in both engineered structures and conventional construction. [ASCE 7: 11.2 9.2+4]

35.2.33.4 Light Framed Wall. A wall with wood or steel studs. [ASCE 7: 11.2 9.2+4]

35.2.33.5 Light-Framed Wood Shear Wall. A wall constructed with wood studs and sheathed with material rated for shear resistance. [ASCE 7: 11.2 9.2+4]

35.2.33.6 Nonbearing Wall. Any wall that is not a bearing wall. [ASCE 7: 11.2 9.2+4]

35.2.33.7 Nonstructural Wall. All walls other than bearing walls or shear walls. [ASCE 7: 11.2 9.2+4]

35.2.33.8 Shear Wall. A wall, bearing or nonbearing, designed to resist lateral seismic forces acting in the plane of the wall (sometimes referred to as a vertical diaphragm). [ASCE 7: 11.2 9.2+4]

Item 4

35.10 Earthquake Loads.

35.10.1 General. All structures and nonstructural components, buildings, and portions thereof, shall be designed and constructed to resist the effects of earthquake motions as prescribed by Sections 11 through 23 of Section 9 of ASCE 7.

35.10.2 Seismic Use Group. All buildings and other structures shall be assigned to a seismic use group in accordance with Section 9.1.3 of ASCE 7.

35.10.3 35.10.4 Importance Factor. Buildings and other structures shall be assigned a seismic importance factor (I) in accordance with Table 11.5-1 of ASCE 7.

35.10.5 35.10.6 Maximum Considered Earthquake Ground Motions. The maximum considered earthquake ground motions shall be represented by the mapped spectral response acceleration at short periods (S) and at periods of 1 second (S) obtained from Figures 33.4-4 through 33.4-14 of ASCE 7.

35.10.7 Site Class. A site class shall be determined in accordance with Chapter 20, Section 9.4.1 of ASCE 7.

35.10.8 35.10.9 Analysis Procedure. The analysis procedure used to evaluate the structure shall comply with Section 12.6 of ASCE 7.

Table A.35.10.2 Seismic Use Group

<table>
<thead>
<tr>
<th>Occupancy Category</th>
<th>Seismic Use Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>IV</td>
<td>X</td>
</tr>
</tbody>
</table>

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44.2.2.2 An R factor as set forth in ASCE 7, Minimum Design Loads for Buildings and Other Structures, Table 12.2-1.9.5.2.2, for the appropriate steel system shall be permitted when the structure is designed and detailed in accordance with the provisions of AISC Seismic, Seismic Provisions for Structural Steel Buildings, Part I.

44.2.2.3 Systems not detailed in accordance with 44.2.2.1 and 44.2.2.2 shall use the R factor in ASCE 7, Table 12.2-1.9.5.2.2, designated for “structural steel systems not specifically detailed for seismic resistance.”

44.2.4 An R factor as set forth in ASCE 7, Table 12.2-1.9.5.2.2, for the appropriate composite steel and concrete system shall be permitted when the structure is designed and detailed in accordance with the provisions of AISC Seismic, Part II.

44.2.4.4 Composite structures shall be permitted in Seismic Design Category D through Seismic Design Category F, subject to the limitations in ASCE 7, Table 12.2-1.9.5.2.2, when evidence approved by the authority having jurisdiction is provided to demonstrate that the proposed system will perform as intended by AISC Seismic, Part II.

44.5.3 When required, the seismic design of storage racks shall also be in accordance with Section 15.5.3.9 of ASCE 7.

44.3.2 Connections. Requirements for connections shall be as follows:

(1) Connections for diagonal bracing members, top chord splices, boundary members, and collectors shall be designed to develop the nominal tensile strength of the member or design seismic force, whichever is less, multiplied by the seismic overstrength factor, $\Omega_p$, from Section 12.2-1.9 of ASCE 7.

(2) The pull-out resistance of screws shall not be used to resist design seismic forces.

44.3.3.3 Anchorage of Braced Wall Segments. Requirements for anchorage of braced wall segments shall be as follows:

(1) Studs or other vertical boundary members at the ends of wall segments that resist seismic loads, braced with either sheathing or diagonal braces, shall be anchored such that the bottom track is not forced to resist uplift by bending of the track web.

(2) Both flanges of the studs shall be braced to prevent lateral torsional buckling.

(3) Studs or other vertical boundary members, and anchorage thereto, shall have the nominal tensile strength to resist design seismic force multiplied by the seismic overstrength factor, $\Omega_p$, from Section 12.2-1.9 of ASCE 7.

44.3.7 Gypsum Board Panel Sheathing. Gypsum board panel sheathing shall be permitted to resist seismic loads, subject to the limitations in ASCE 7, Table 12.2-1.9.5.2.2.

SUBSTANTIATION: The purpose of this comment is to update the applicable seismic provisions of NFPA 5000 to ASCE 7-05. Currently, the seismic provisions are based on ASCE 7-02. The following comment in combination with a separate comment that updates the reference publications from ASCE 7-02 to ASCE 7-05 will make the seismic provisions of the 2006 Edition of NFPA 5000 consistent with those in ASCE 7-05. The seismic provisions of ASCE 7-05 have undergone a substantial change in section format. Accordingly, this comment updates all the applicable section references throughout the code to be consistent with ASCE 7-05.

In the seismic provisions of the 2005 edition of ASCE 7 the term “Seismic Use Groups” is no longer used hence to be consistent with the referenced standard it is important to remove this term from the annex and link the determination of the Importance Factor directly with the nature of the occupancy. Within ASCE 7-05, this is done through the use of the term “Occupancy Category” which is hereby proposed to be introduced into NFPA 5000.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject this comment, since ASCE 7-05 will not be available until January 2005. However, if ASCE 7-05 was published and available at this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment on 5000-4.
5000-665 Log #172 BLD-STR FINAL ACTION: Accept in Principle (Chapter 36)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT IN PART to "ACCEPT IN PRINCIPLE. Revise the reference to the 2005 edition of ASCE 7 and to accept the language in the committee statement."

The TCC was provided with a summary of changes of the 2005 edition of this standard. This was not available during the ROC preparation meeting of BLD-STR.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-952

RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update referenced documents in Chapter 2.
2. Provide estimated publication dates, if known, and information on documents that are scheduled to updated by July of 2005.
3. Update and coordinate any changes in Chapter 36 based upon the 2005 edition of ASCE 7.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Part

Accept: Items 1 and 2.
Reject: Item 3.

COMMITTEE STATEMENT: In light of Comment 5000-95, the Technical Committee had to reject Item 3 of this comment, since ASCE 7-05 will not be available until January 2005. However, if ASCE 7-05 was published and available at this Technical Committee's ROC Meeting, the Technical Committee would have recommended a Committee Action of "Accept in Principle" with the following modifications to coordinate Chapter 36 with ASCE 7-05.

36.1.1 In addition to the requirements of this chapter, structures assigned to Seismic Design Category C, Seismic Design Category D, Seismic Design Category E, and Seismic Design Category F shall comply with the applicable requirements in ASCE 7-05 Minimum Design Loads for Buildings and Other Structures, Section 2.4 and 2.7.

36.6.2.4 Thickness Based on Soil Loads, Unbalanced Backfill Height, and Wall Height. Subject to the limitations of ASCE 7, Section 14 Chapter 4, the thickness of foundation walls shall comply with the requirements of Table 36.6.2.4(a) for plain masonry and plain concrete walls or Table 36.6.2.4(b), Table 36.6.2.4(c), and Table 36.6.2.4(d) for reinforced concrete or masonry walls.

36.6.2.5 Rubble Stone. Subject to the limitations of ASCE 7, Section 14 Chapter 4, foundation walls of rough or random rubble stone shall be not less than (400 mm) thick.

36.6.2.6 Foundation Walls. Subject to the limitations of ASCE 7, Section 14 Chapter 4, foundation walls constructed in accordance with Table 36.6.2.6(a), Table 36.6.2.6(b), Table 36.6.2.6(c), or Table 36.6.2.6(d) shall comply with all of the following:

Consequently, the Technical Committee requests that the TCC change the Committee Action as requested at its ROC Meeting.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE: NACHIMEAN: See my Affirmative with Comment on 5000-4.

5000-665a Log #CC105 BLD-MAT FINAL ACTION: Accept in Principle (36.4.1.4)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT IN PART to "ACCEPT IN PRINCIPLE. Revise the text of 36.4.1.4 to read:"

"36.4.1.4 Post-tensioned S slab-on-ground, raft, or mat footings on expansive soils shall be designed and constructed in accordance with WRI/CRSI's Design of Slab-on-Ground Foundations or PTI's Design and Construction of Post-Tensioned Slabs-on-Ground. Conventionally reinforced, non-post-tensioned slab-on-ground, raft, or mat footings on expansive soils shall be permitted to be designed and constructed in accordance with WRI/CRSI's Design of Slab-on-Ground Foundations.

This change addresses the information brought forward in Messersmith's negative and establishes a preference for post-tensioned and non-post-tensioned slab designs.

SUBMITTER: Technical Committee on Materials

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: Modify as follows:

36.4.1.4 Slab-on-ground, raft, or mat footings on expansive soils shall be permitted to be designed and constructed in accordance with WRI/CRSI's Design of Slab-on-Ground Foundations or PTI's Design and Construction of Post-Tensioned Slabs-on-Ground.

SUBSTANTIATION: To bring this section into accordance with NFPA Regulations Governing Committee Projects, Section 3-3.7, these modifications correct the title and allow, instead of require, these types of retaining walls to be designed and constructed in accordance with a nonmandatory industry manual for segmented retaining walls.

5000-665b Log #CC103 BLD-MAT FINAL ACTION: Accept (36.7 and 45.6)

SUBMITTER: Technical Committee on Materials

COMMENT ON PROPOSAL NO: 5000-131

RECOMMENDATION: Part I: Modify Section 36.7 as follows:


Part II: Modify Section 45.6 as follows:

45.6.9.16 Lumber and plywood used in wood foundation systems shall be preservatively treated in compliance with AWPA C22. Lumber and Plywood for Permanent Wood Foundations - Preservative Treatment by Pressure Processed conform to Chapter 36 and the provisions of AWPA Technical Report No. 7 or the SPC Publication, Permanent Wood Foundations: Design & Construction Guide.

A.45.6.9.16 Detailed design and construction information, including information about appropriate preservatively treated lumber, is available in the AF&PA Technical Report No. 7, Permanent Wood Foundation System and in the Southern Pine Council Permanent Wood Foundations: Design & Construction Guide.

SUBSTANTIATION: In accordance with the NFPA Regulations Governing Committee Projects, Section 3-3.7, nonmandatory references have been recommended for relocation to annex notes. This review was done as part of the standard update process as requested by the TCC in Comment 5000-96. The modification to Chapter 36 was done for coordination, since the Technical Committee on Structures and Construction had already conducted their ROC meeting.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS
COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-961

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-961.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-961.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-961.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-962

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-962.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-962.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-962.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-963

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-963.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-963.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-963.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-964

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-964.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-964.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-964.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-965

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-965.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-965.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-965.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-966

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-966.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-966.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-966.

COMMITTEE MEETING ACTION: Reject

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-967.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-967.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-967.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-968

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-968.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-968.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-968.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-969

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-969.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-969.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-969.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Correlating Committee on Building Code

FINAL ACTION: Accept

COMMENT ON PROPOSAL NO: 5000-970

RECOMMENDATION: Revise the terminology as indicated (Aluminum Composite Materials to Metal Composite Materials) in the chapters/sections they have responsibility for.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-970.

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-970.

COMMENT ON AFFIRMATIVE

NACHERMAN: See my Affirmative with Comment on 5000-970.
COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.

COMMITTEE STATEMENT: The Technical Committee notes that this action was already incorporated into Proposal 5000-967; therefore no further action is necessary.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-673 Log #402 BLD-STR FINAL ACTION: Accept in Principle in Part (38.4)

TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE IN PART be retained, but that the following revision be made in the committee action version of 38.4.2.1:
38.4.2.1 For buildings less than or equal to 60 ft in height and located outside hurricane prone regions, as defined by ASCE 7, the roof surface shall be protected in accordance with 38.4.2.1.1 and #8.4.2.1.2.*

SUBMITTER: David L. Roozvets, DLR Consultants / Rep. Representing SPIR

COMMENT ON PROPOSAL NO: 5000-994

RECOMMENDATION: Revise to read as follows:
38.4.4 Built Up Roofs.
38.4.4 Gravel and Stone. Gravel and Stone smaller than ASTM D4185 #5 shall not be used on buildings greater than 60 ft in height or on any building located in hurricane prone region as defined in ASCE 7. Minimum Design Loads for Buildings and Other Structures, Chapter 8 of NFPA 5000.
38.4.4.3 Built-up roofs shall be surfaced with gravel or slag applied at a minimum rate of 4 lb/ft2 (19 kg/m2). It shall be embedded into the hot asphalt or coal-tar.

38.4.5 Locations Outside High Wind-Prone Regions. For buildings less than or equal to 60 ft in height located outside hurricane prone regions, as defined by ASCE 7, the roof surface shall be protected according to 38.4.4.2 through 38.4.4.3.
38.4.4.2 For single-ply membranes, gravel ballast or concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ASNI/SPRI RP-4.
38.4.4.3 Built-up roofs shall be surfaced with gravel or slag applied at a minimum rate of 4 lb/ft2 (19 kg/m2) and applied in a flood coat of hot asphalt or coal-tar.

38.4.5.1 Locations Within High Wind-Prone Regions. For buildings greater than 60 ft in height or located within hurricane prone regions, as defined by ASCE 7, the roof surface shall be protected according to 38.4.5.2 through 38.4.5.3.
38.4.5.2 For single-ply membranes, concrete paver blocks shall weigh 22 pounds per square foot or more or be interlocking with wind tunnel tested performance, or minimum ASTM D4185 #2 stone shall provide complete membrane coverage and shall be installed in accordance with ASNI/SPRI RP-4.
38.4.5.3 Built-up roofs surfaced with gravel or slag. The gravel or slag shall be applied at a minimum rate of 4 lb/ft2 (19 kg/m2). It shall be embedded into a double flood coat of hot asphalt or coal-tar and rolled into the hot bitumen to ensure full embedment. After cooling, any loose gravel or slag shall be removed from the roof. All gravelled roofs greater than 60 ft in height shall have a minimum parapet height of 24 in.

SUBSTANTIATION: This wording provides explicit requirements for the use of Gravel and Stone in all wind regions. It provides proven methods of eliminating stone blow off. In roof inspections by RICOWI after hurricane Charlie and Ivan the use of parapets was shown to be effective in preventing loose pea gravel from blowing off roofs. Roofing that did not comply with RP-4, did lose gravel from the roof in a windstorm that is believed to have met or exceeded the 50-year wind speed return predictions of ASCE 7. These roofs were over 75 ft tall with no parapet, a design that is now allowed in RP-4. The stone size was ASTM #4 or #5. This comment limits the stone to ASTM #2 or larger. It also specifies a paver weight for high wind areas. The net effect will be systems that can withstand high winds without loss of stone or gravel and will provide fire and hail protection for the roof. Ballasted roofs complying with ASNI/SPRI RP-4 were not damaged in the Oklahoma City hailstorm that subjected roofs to 3 in. hail.

Stone and gravel are relatively inexpensive roof coverings that can be installed to remain in place in high winds and provide excellent protection to the roof surface. They should not be eliminated from the code due to past practices that do not comply with current standards.

Wind tunnel studies and the practical experience used to validate RP-4 have shown the value of parapets in preventing blow off. They should be considered for all low slope roofs.

COMMITTEE MEETING ACTION: Accept in Principle in Part
Delete Section 38.4.2 and replace with the following:
38.4.2 Gravel and Stone.
38.4.2.1 For buildings less than or equal to 60 ft in height and located outside hurricane prone regions, as defined by ASCE 7, the roof surface shall be protected in accordance with 38.4.2.1.1 and 38.4.2.1.2.
38.4.2.1.1 For single-ply membranes, gravel ballast or concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ASNI/SPRI RP-4.
38.4.2.1.2 Built-up roofs surfaced with gravel or slag applied at a minimum rate of 4 lb/ft2 (19 kg/m2) and embedded in a flood coat of hot asphalt or coal-tar shall be permitted.
38.4.2.2 For buildings greater than 60 ft in height or located within hurricane prone regions, as defined by ASCE 7, the roof surface shall be protected in accordance with 38.4.2.2.1 through 38.4.2.2.3.
38.4.2.1.1 For single-ply membranes, concrete paver blocks shall provide complete membrane coverage and shall be installed in accordance with ASNI/SPRI RP-4.
38.4.2.2.2 For built-up roofs surfaced with gravel or slag, the gravel or slag shall be applied at a minimum rate of 4 lb/ft2 (19 kg/m2).
38.4.2.2.1 The gravel or slag shall be embedded into a double flood coat of hot asphalt or coal-tar to ensure full embedment.
38.4.2.2.2.2 After cooling, any loose gravel or slag shall be removed from the roof.
38.4.2.2.2.3 All gravelled roofs greater than 60 ft in height shall have a minimum parapet height of 24 in.

COMMITTEE STATEMENT: The Technical Committee notes that the section on Gravel and Stone has moved to Section 38.4.2, therefore these modifications that have been made in this section of Chapter 38.

For the most part, the Technical Committee agreed with the commenter and made only minor editorial modifications. However, the Technical Committee chose not to allow gravel ballasted single-ply membrane roofing systems on buildings in hurricane prone regions or on buildings greater than 60’ in height outside hurricane prone regions. Stone varies in size, and, smaller stones are more susceptible to blowing off the roof in high winds and becoming windborne debris.

Also, in Section 38.4.2.2.2, the Technical Committee removed the requirement for rolling the gravel or slag, because rolling the stone may damage the roof membrane.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 20 Negative: 1 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF NEGATIVE:
HOLLAND: The proponent submitted anecdotal evidence that the 24-in. parapet would prevent gravel from leaving the roof. The evidence was based on gravel currently in use. The proposal mandates gravel size. Recommend: Accept.

I still feel that we should accept the original proposal. However, it looks like I am in the minority. Should the item receive 2/3 on the recirculation I then support Mr. Messersmith’s comment.

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
DAVIS: Revise as follows:
38.4.2.1.1 and 38.4.2.2.1 For ballasted single-ply membranes...

Substantiation: Adhered and mechanically attached single-plies are not required to have any ballast and normally would not have any. This requirement applies to ballasted single-plies. The exemption would be adjacent to high challenge fire walls, however, that is consistently covered in NFPA 221 and Chapter 8 of NFPA 5000.
38.4.2.1.2 Built-up and modified bitumen roofs...

Substantiation: Pea gravel is commonly applied to mod bits as well as BURs.

MARTIN: I agree with Davis and Messersmith.

MESSERSMITH: Section 38.4.2.1 requires compliance with “Sections 38.4.2.1.1 and 38.4.2.1.2”. It is not possible to comply with both sections. Changing “and” to “or” will resolve this problem.

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-674 Log #178 BLD-STR FINAL ACTION: Accept in Principle in Part (38.4.2)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-980

RECOMMENDATION: Clarify both the location and the language of the revised text. The committee action text refers to 38.4.2.1 and the committee statement text refers to 38.9.128.1.2. In addition, the wording is slightly different for the two sections.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
No action is necessary.
COMMITTEE STATEMENT: The Technical Committee notes that since both Proposal 5000-980 and Proposal 5000-967 passed, then the appropriate placement of this new language is 38.9.2.8.2 of the reorganized Chapter 38, as reflected correctly in the Committee Statement of Proposal 5000-967.

5000-675 Log #295 BLD-STR

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-4.

EXPLANATION OF ABSTENTION: NACHMAN: See my Affirmative with Comment on 5000-4.

5000-675 Log #379 BLD-STR

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON AFFIRMATIVE: NACHMAN: See my Affirmative with Comment on 5000-4.

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

5000-678 Log #381 BLD-STR

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON AFFIRMATIVE: NACHMAN: See my Affirmative with Comment on 5000-4.

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

5000-667 Log #380 BLD-STR

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON AFFIRMATIVE: NACHMAN: See my Affirmative with Comment on 5000-4.

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.
COMMITTEE STATEMENT:

5000-679 Log #179 BLD-STR  FINAL ACTION: Accept in Principle (38.7)

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION:
Give consideration to the enforceability of the provision as noted in Kirby’s and Tyre’s explanation of negative so as to make any needed changes.

SUBSTANTIATION:
See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action on Comment 5000-682a (Log #CC8).

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-682a (Log #CC8).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-680 Log #372 BLD-STR  FINAL ACTION: Reject (38.7)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

RECOMMENDATION: Delete Proposal 5000-1008 regarding Section 38.7 Ventilation in its entirety.

SUBSTANTIATION: The language within Section 38.8 discusses requirements that are only actionable for steep-slope roof systems. As written, this text is unenforceable for low slope roof systems. Specifically, point 1 requires ventilation at the low point (eaves) and the high point (ridges) for natural ventilation to occur. This will not happen in low-slope roofs because there is typically not a significant height difference between the high and low points like there is with steep slope roof systems.

Requirements for ventilation within the roofing chapter should only be required for steep-slope roof systems.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject the deletion of this section. The Technical Committee believes that NFPA 5000 should address attic ventilation. However, in comment 5000-682a (Log #CC8), the Technical Committee addresses the commenter’s concerns by developing a more performance-based approach to ventilation of attic spaces.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-682 Log #373 BLD-STR  FINAL ACTION: Accept in Principle (38.8)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

RECOMMENDATION: Further modify Proposal 5000-967 as follows:
38.8 Steep-slope Attic Ventilation.

SUBSTANTIATION: The language within Section 38.8 discusses requirements that are only actionable for steep-slope roof systems. As written, this text is unenforceable for low slope roof systems. Specifically, point 1 requires ventilation at the low point (eaves) and the high point (ridges) for natural ventilation to occur. This will not happen in low-slope roofs because there is typically not a significant height difference between the high and low points like there is with steep slope roof systems.

Requirements for ventilation within the roofing chapter should only be required for steep-slope roof systems.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action on Comment 5000-682a (Log #CC8).

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-682a (Log #CC8).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-682a Log #CC8 BLD-STR  FINAL ACTION: Accept (38.8)

SUBMITTER: Technical Correlating Committee on Structures and Construction

RECOMMENDATION: Delete 38.8 and replace with the following:
38.8 Ventilation of Attic Space.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action on Comment 5000-682a (Log #CC8).

COMMITTEE STATEMENT: See Committee Statement on Comment 5000-682a (Log #CC8).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.
SUBMITTER: Richard J. Davis, FM Global

COMMENT ON PROPOSAL NO: 5000-981

RECOMMENDATION: Add the following text to 38.8.7.8.2 and A38.8.7.8.2 (reference Log #744):

38.8.7.8.2 Standing seam metal panel roof assemblies shall be tested for wind resistance in accordance with one of the following applicable tests: ASTM E 1592, FM 4471, UL 580, or UL 1897. The test specimen shall not contain less than three full panel widths and shall not have less than four full panel spans (five structural elements).

A 38.8.7.8.2 Test equipment must be of adequate size for the tributary area of the roof specimen to properly quantify the wind resistance of roof systems. Standing seam metal roof panels (SSR) are typically 5 ft on center and often vary from 4 to 6 ft on center. FM 4471 is used to test wind uplift resistance of metal panel roofs. It uses a nominal 12 ft by 24 ft test assembly. Panels span in the long dimension, which allows for four or more spans of roof panel based on the assembly tested. Similarly, ASTM E 1592 has specific requirements regarding the number of spans that meets or exceeds the proposed criteria.

The UL 580 and UL 1897 tests have a limited minimum test size (10 ft x 10 ft), but do not have a limit on the maximum span of roof panel used in the assembly tested. Consequently, the roof panel size used in the 10 ft by 10 ft test should be limited to 8 ft x 8 ft panel spans (five structural elements).

The fastener spacing for many metal panel roofs is such that they require larger tests, such as 12 x 24 ft. Otherwise the assemblies could fail at much lower pressures in actual installations than indicated in the 10 x 10 ft tests.

SUBMITTER: Rossberg, Wren

comment should be added as the last sentence of 38.9.7.8.2 in Proposal 5000-967.

RECOMMENDATION: Modify Section 38.9.2 as follows:

38.9.2 Asphalt Shingles.

38.9.2.4 Underlayment Requirements.

38.9.2.4.1 Roof coverings designed to be applied to roofs with a minimum slope of 4:12 in./ft (25 mm/300 mm) shall have underlayment installed according to 38.9.2.4.2.

38.9.2.4.2 Underlayment used beneath asphalt shingles shall meet the requirements of Type I of ASTM D 226, Standard Specification for Asphalt- Saturated Organic Felt Underlayment Used in Roofing and Waterproofing, ASTM D 4869, Standard Specification for Asphalt Saturated Organic Felt Shingle Underlayment Used in Steep Slope Roofing, or ASTM D 6757, Standard Specification for Inorganic Underlayment for Use with Steep Slope Roofing Products.

38.9.2.6 Flashing Requirements. (Reserved) All flashing for asphalt shingles shall comply with manufacturers requirements and this section.

38.9.2.6.1 Base and Cap Flashing.

38.9.2.6.1.1 Either metal or mineral surfaced roll roofing can be used for base and cap flashing applications and products.

38.9.2.6.1.2 Where metal is used, it shall be corrosion resistant and at least 0.019 in. thick.

38.9.2.6.1.3 Where roll roofing is used, it shall be a mineral surfaced product weighing at least 77 pounds per 100 square feet.

38.9.2.6.1.4 Only corrosion resistant metal cap flashing shall be used.

38.9.2.6.2 Valleys.

38.9.2.6.2.1 All steep roofs shall have valley linings.

38.9.2.6.2.2 Valley linings shall be installed prior to the application of roof covering materials.

38.9.2.6.2.3 Open valleys (i.e., valleys not covered with shingles) shall be lined with metal, or two-ply of mineral surfaced roll roofing.

(A) Where metal is used, metal linings shall be at least 16 in. wide, corrosion resistant and at least 0.019 in. thick.

(B) Where mineral surfaced roll roofing is used, it shall be at least 18 in. wide for the bottom layer and at least 36 in. wide for the top layer.

38.9.2.6.2.4 Open valleys shall use material complying with ASTM D 249 or ASTM D 3909.

38.9.2.6.2.5 Closed Valleys (i.e., valleys covered with shingles) shall use material that complies with ASTM D 6830 Class Type V, Class M Type II, ASTM D 1970 or ASTM D 5690.

38.9.2.6.3 Drip Edge.

38.9.2.6.3.1 All steep roofs shall have metal drip edges at eaves and gables.

38.9.2.6.3.2 All metal drip edges shall be corrosion resistant and at least 0.019 in. thick.

38.9.2.6.3.3 Eave drip edges shall extend a minimum of 1/4 in. below the sheathing and onto the roof a minimum of 2 in.

38.9.2.6.3.4 Chimneys wider than 24 in. shall have crickets or saddles installed to divert water.

38.9.2.6.4 Other Requirements (Reserved)

SUBSTANTIATION: This comment is from the Task Group on Roofing.

In Section 38.9.2.4.1, underlayment is required for all slopes. This change makes the slope requirements consistent with the roof slope limitations. In Section 38.9.2.6.2, the proposed wording clarifies the requirements for flashing applications and products.

In Section 38.9.2.9, extra words are eliminated.

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment on 5000-4.
COMMITTEE MEETING ACTION: Accept in Principle
Delete Section 38.9.2.8 and replace with the following text:
38.9.2.8 Wind Requirements.

38.9.2.8.1 Shingles Tested with ASTM D3161. Where the ASTM D3161 method of testing is used, asphalt composition shingles shall be tested for, and comply with the wind speed as required in Section 35.9 using ASTM D3161:
(a) For roofs located where the basic wind speed required in Section 35.9 is 85 mph (40 m/s) or greater, asphalt composition shingles shall comply with, and be labeled Class D, or Class F, in accordance with ASTM D3161.
(b) For roofs located where the basic wind speed required in Section 35.9 is 110 mph (49 m/s) or greater, asphalt composition shingles shall comply with, and be labeled Class F, in accordance with ASTM D3161.

38.9.2.8.2 Shingles Tested with UL 2390 and ASTM D6381.

Where UL 2930 and ASTM D6381 method of testing is used, asphalt composition shingles shall be suitable for roofs on buildings 60 feet or less in height, in wind exposures B and C, and Occupancy Category I or II, and where the basic wind speed in accordance with Section 35.9 is as follows:
(i) less than or equal to 90 mph, asphalt shingles shall be labeled UL 2930 Class G or UL 2930 Class H
(ii) less than or equal to 120 mph, asphalt shingles shall be labeled UL 2930 Class G or UL 2930 Class H
(iii) less than or equal to 150 mph, asphalt shingles shall be labeled UL 2930 Class H

COMMITTEE STATEMENT: The Technical Committee reread this section to better clarify the requirements.

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON AFFIRMATIVE
NACHAMEN: See my Affirmative with Comment on 5000-4.

5000-687 Log #403 BLD-STR FINAL ACTION: Accept in Principle (38.9.2.8)

SUBMITTER: David L. Roodvoets, DLR Consultants / Rep. ARMA

COMMENT ON AFFIRMATIVE
JONES: See my Explanation of Abstention on Comment 5000-4.

5000-687 Log #276 BLD-STR FINAL ACTION: Accept (38.9.3)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Revise as follows:
38.9.2.8 Wind Requirements.
38.9.2.8.1 Installation of asphalt shingles shall be in accordance with the manufacturer’s recommendations printed installation instructions and shall be attached as tested in accordance with either 38.9.2.8.1.1 or 38.9.2.8.2. Asphalt shingles shall bear a label indicating compliance with the test wind classification and reference the test method used: either (ASTM D3161) or (UL 2930/ASTM D6381).

COMMITTEE STATEMENT:

5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:
JONES: See my Explanation of Abstention on Comment 5000-4.

5000-288
38.9.3.791 Impact-Resistance Requirements. BUR roof assemblies shall be tested for impact resistance in accordance with ASTM D 3746.

SUBSTANTIATION: This comment is from the Task Group on Roofing. In Section 38.9.3.4, underlayments are not used for BUR roof systems. In Section 38.9.3.5, Ice Dam Protection is not used for BUR roof systems. In Section 38.9.3.6, this is now separated into requirements for membrane flashings (*1) and testing requirements for metal edges (*2). In Section 38.9.3.6.2, thicknesses will be as specified by manufacturer’s printed installation instructions.

Committee Meeting Action: Accept

Number Eligible to Vote: 27

Ballot Results: Affirmative: 21 Abstain: 1

Ballot Not Returned: 5 DIGIOVANNI, GILLENGETEN, NOVAK, ROSSBERG, WREN

Explanation of Abstention: JONES: See my explanation of Abstention on Comment 5000-4.

Comment on Affirmative

Nacheman: See my Affirmative with Comment on 5000-4.

5000-689 Log #278 BLD-STR Final Action: Accept (38.9.4)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Modify Section 38.9.4 as follows:

38.9.4 Concrete and Clay Tiles.

38.9.4.2 Slope Requirements. Concrete and clay tile roof coverings shall be installed with minimum slopes in accordance with manufacturer’s printed installation instructions, but in no case shall concrete and clay tiles be installed at slopes less than 2 1/2 in./ft (63 50 mm/300 mm).

38.9.4.3 Roof Deck Requirements. Roof decks shall be solidly sheeted, except where the roof assembly is specifically designed for a different system.

38.9.4.4 Underlayment Requirements.

38.9.4.4.1 Roof coverings designed to be applied to roofs with a minimum slope of 2 1/2 in./ft (63 50 mm/300 mm) shall have underlayment installed according to Section 38.9.4.2.2.

38.9.4.4.2 Underlayment used beneath concrete and clay tiles shall meet the requirements of Type I or Type II of ASTM D 226, Type I or Type II of ASTM D4869, or ASTM D6757. Perforated underlayment shall not be permitted.

38.9.4.6 Flashing Requirements.

38.9.4.6.1 Flashing and counterflashing shall be installed according to manufacturer's printed installation instructions.

38.9.4.6.2 Metal shall not be less than 0.019 in. (0.48 mm) thick (26 gauge) and shall be corrosion resistant.

38.9.4.6.3 Valley flashing shall extend 11 in. (275 mm) minimum each way from the centerline and have a splash diverter rib at least 1 in. (25 mm) high at the centerline of the valley.

38.9.4.6.4 Valley metal shall be overlapped 4 in. (100 mm) minimum.

38.9.4.6.5 For roofs with a slope equal to or greater than 2 1/2 in./ft (63 mm/300 mm), a 36 in. (900 mm) wide underlayment shall be installed in addition to other required underlayment.

38.9.4.6.6 Where ice dam protection is required, the valley underlayment shall be solidly cemented to the roofing underlayment for slopes less than 7 in./ft (175 mm/300 mm) or be self-adhering polymer modified bitumen sheath.

38.9.4.7 Fastener Requirements.

38.9.4.7.1 Fasteners shall be corrosion resistant and not less than 11 gauge with 5/16 in. (6 mm) head and of sufficient length to penetrate the deck 3/4 in. (19 mm) minimum or through the deck, whichever is less.

38.9.4.7.2 Wire for attaching tile shall be 0.083 in. (2 mm) thick minimum.

38.9.4.7.3 Fastening is required at all perimeters which includes three tile courses but not less than 36 in. (915 mm) on either side of hips, ridges, and edges of eaves and rakes.

38.9.4.8 Other Requirements.

38.9.4.8.1 Substantiation: This comment is from the Task Group on Roofing.

In Section 38.9.4.2, the correct minimum slope for tile application is needed. In Section 38.9.4.4.1, the correct minimum slope for tile application is needed.

In Section 38.9.4.6, flashing requirements are needed for clay and concrete tile.

In Section 38.9.4.7, fastening requirements are needed for clay and concrete tile roof systems.

In Section 38.9.4.9, there are no other requirements at this time for clay and concrete tile.

Committee Meeting Action: Accept

Number Eligible to Vote: 27

Ballot Results: Affirmative: 21 Abstain: 1

Ballot Not Returned: 5 DIGIOVANNI, GILLENGETEN, NOVAK, ROSSBERG, WREN

Explanation of Abstention: James R. Kirby, National Roofing Contractors Association

Comment on Affirmative

Nacheman: See my Affirmative with Comment on 5000-4.

5000-690 Log #279 BLD-STR Final Action: Accept (38.9.6)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Modify Section 38.9.6 as follows:

38.9.6.4 Underlayment Requirements.

38.9.6.4.1 Flashing used for modified bitumen roof assemblies shall be installed according to the manufacturer’s printed installation instructions and, where metal, shall be corrosion resistant.

38.9.6.4.2* The metal edge securement for modified bitumen roof assemblies, except gutters, flashing assembly shall be tested, listed, and installed in accordance with FM 4435, Test Standard for Roof Perimeter Flashing, or ANSI/SPRI ES-1, Wind Design Guide for Edge Systems Used with Low Slope Roofing Systems.

A38.9.3.46.1* For additional information see FM Data Sheet 1-49, Perimeter Flashing.

38.9.6.5 Minimum Thickness.

38.9.6.5.1 Substantiation: This comment is from the Task Group on Rooftop.

In Section 38.9.6.4, underlayments are not used for modified bitumen roof systems.

In Section 38.9.6.5, Ice Dam Protection is not used for modified bitumen roof systems.

In Section 38.9.6.6, this is now separated into requirements for membrane flashings (*1) and testing requirements for metal edges (*2).

In Section 38.9.6.6.2, thicknesses will be as specified by manufacturer’s printed installation instructions.

5000-289
In Section 38.9.6.6.3, corrosion requirements are in Section 38.9.6.6.1. In Section 38.9.6.7, the proposed text provides some general guidance regarding corrosion resistance for fasteners, as no guidance existed in the current document.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGETERN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

A.38.9.9.2 Controlled flow drain roofs, where structural decks are designed for the additional weight of ponded water, are limited to positive slope toward drains.

38.9.9.6 Flashing Requirements.

38.9.9.6.1 Flashing used for mineral surfaced roll roofing assemblies shall be installed according to the manufacturer’s printed installation instructions and, where metal, shall be corrosion resistant.

38.9.9.6.2* The metal edge securement for mineral surfaced roll roofing assemblies, except gutters, flashing assembly shall be tested, listed, and installed in accordance with FM 4435, Test Standard for Roof Perimeter Flashing, or ANSI/SPRI ES-1, Wind Design Guide for Edge Systems Used with Low Slope Roofing Systems.

A.38.9.9.6.4* For additional information see FM Data Sheet 1-49, Perimeter Flashing.

38.9.7.6.3 Corrosion Requirements. (Reserved)

38.9.7.9 Other Requirements.

A.38.9.9.7* This comment is from the Task Group on Roofing. In Section 38.9.9.2, the correct minimum slope for mineral surface roll roofing is needed. A.38.9.9.2 was deleted because mineral surfaced roll roofing is not used in controlled-flow drain roofs.

In Section 38.9.9.6, this is now separated into requirements for membrane flashings (* 1) and testing requirements for metal edges (* 2).

In Section 38.9.9.7, the proposed text provides some general guidance regarding corrosion resistance for fasteners, as no guidance existed in the current document.

In Section 38.9.9.8, these roof systems shall be tested according to the same wind uplift tests as other continuous, low-slope roofing systems.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGETERN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-694 Log #283 BLD-STR FINAL ACTION: Accept (38.9.10)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Modify Section 38.9.10 as follows:

38.9.10 Slate.

38.9.10.4 Underlayment Requirements.

38.9.10.4.1 Roof coverings designed to be applied to roofs with a minimum slope of 2/12 in./ft (100 75 mm/300 mm) shall have underlayment installed according to 38.9.10.4.2.

38.9.10.4.2 Underlayments used beneath slate shingles shall meet the requirements of Type I or Type II of ASTM D 226, Type I or Type II of ASTM D 6575, or ASTM D6757. Perforated underlayment shall not be permitted.

38.9.10.6 Flashing Requirements. (Reserved)

38.9.10.6.1 Flashing and counter flashing shall be made of sheet metal.

38.9.10.6.2 Valley flashing shall be 15 in. (380 mm) minimum width.

38.9.10.6.3 Base metal (uncoated) valley and flashing metal shall be 0.0179 in. (0.5 mm) thick minimum G90 zinc-coated.

38.9.10.6.4 Where base flashings meet chimneys, stucco or brick walls, a cap flashing of a minimum of two plies of 4 in. (100 mm) wide felt set in mastic, the second extending 1 in. (25 mm) above the first, shall extend over the base flashing 2 in. (50 mm).

38.9.10.7* Fastener Requirements. (Reserved) Fasteners shall be corrosion resistant.

A.38.9.9.7* FM 4470 includes a test for corrosion resistance.

38.9.10.8 Wind Requirements. (Reserved)

38.9.10.9 Wind Requirements. (Reserved)

38.9.10.9.2* This comment is from the Task Group on Roofing.

In Section 38.9.10.4.1, the correct minimum slope for slate application is needed.

In Section 38.9.10.6, flashing requirements are needed for slate applications.

In Section 38.9.10.7, the proposed text provides some general guidance regarding corrosion resistance for fasteners, as no guidance existed in the current document.

In Section 38.9.10.8, wind resistance requirements are not needed due to the stiffness of the slate material.

A.38.10.4.9, there are no other requirements at this time for slate.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27
COMMENT ON AFFIRMATIVE

JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHAEM: See my Affirmative with Comment on 5000-4.

5000-695 Log #284 BLD-STR

FINAL ACTION: Accept

(38.9.11)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Modify Section 38.9.11 as follows:

38.9.11.4 Underlayment Requirements. (Reserved)

38.9.11.5 Ice Dam Protection. (Reserved)

38.9.11.6 Flashing Requirements.

38.9.11.7 Fastener Requirements. (Reserved) Fasteners shall be corrosion resistant.

A.38.9.11.5 640 38.9.11.4.6* The metal edge securing for spray polyurethane foam roof assemblies, except gutters, flashing assembly shall be installed according to the manufacturer’s printed installation instructions, and where metal, shall be corrosion resistant.

38.9.11.6 640 38.9.11.6.1* The metal edge securing for spray polyurethane foam roof assemblies shall be tested, listed, and installed in accordance with FM 4435, Test Standard for Roof Perimeter Flashing, or ANSI/SPRI ES-1, Wind Design Guide for Edge Systems Used with Low Slope Roofing Systems.

A.38.9.11.4.2 For additional information see FM Data Sheet 1-49, Perimeter Flashing.

38.9.11.6 640 38.9.11.6.2 Minimum Thickness. (Reserved)

38.9.11.6 640 38.9.11.6.3 Corrosion Requirements. (Reserved)

38.9.11.6 640 38.9.11.6.6 Flashing Requirements. (Reserved) Flashings shall be corrosion resistant.

A.38.9.11.5 640 38.9.11.5.1* The metal edge securing for spray polyurethane foam roof assemblies shall be tested for wind resistance in accordance with one of the following applicable tests: FM 4470, UL 580, or UL 1897.

38.9.11.6 640 38.9.11.6.8 Wind Requirements. (Reserved) Spray polyurethane foam roof assemblies shall be tested for wind resistance in accordance with one of the following applicable tests: FM 4470, UL 580, or UL 1897.

38.9.11.6 640 38.9.11.6.9 Other Requirements. (Reserved)

SUBSTANTIATION: This comment is from the Task Group on Roofing. In Section 38.9.11.4, underlayments are not used for spray polyurethane foam roof systems.

In Section 38.9.11.5, Ice Dam Protection is not used for spray polyurethane foam roof systems.

In Section 38.9.11.6, this is now separated into requirements for flashings (*1) and testing requirements for metal edges (*2).

In Section 38.9.11.6.2, thicknesses will be as specified by manufacturer’s printed installation instructions.

In Section 38.9.11.6.3, corrosion requirements are in Section 38.9.11.6.1.5.

In Section 38.9.11.7, the proposed text provides some general guidance regarding corrosion resistance for fasteners, as no guidance existed in the current document.

In Section 38.9.11.8, these roof systems shall be tested according to the same wind-uplift tests as other continuous, low-slope roof systems.

In Section 38.9.11.9, there are no other requirements at this time for spray polyurethane foam roofing.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIOGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION:

JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHAEM: See my Affirmative with Comment on 5000-4.

5000-697 Log #286 BLD-STR

FINAL ACTION: Accept

(38.9.12)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Modify Section 38.9.12 as follows:

38.9.12 Single Ply Roofing.

38.9.12.4 Underlayment Requirements. (Reserved)

38.9.12.5 Ice Dam Protection. (Reserved)

38.9.12.6 Flashing Requirements.

38.9.12.7 Fastener Requirements. (Reserved) Fasteners shall be corrosion resistant.

A.38.9.12.6 38.9.12.6.1 For additional information see FM Data Sheet 1-49, Perimeter Flashing.

38.9.12.6 38.9.12.6.2 Minimum Thickness. (Reserved)

38.9.12.6 38.9.12.6.3 Corrosion Requirements. (Reserved)

38.9.12.6 38.9.12.6.5 Fastener Requirements. (Reserved) Fasteners shall be corrosion resistant.

A.38.9.12.5 640 38.9.12.5.1* The metal edge securing for single ply roof assemblies, except gutters, flashing assembly shall be tested, listed, and installed in accordance with FM 4435, Test Standard for Roof Perimeter Flashing, or ANSI/SPRI ES-1, Wind Design Guide for Edge Systems Used with Low Slope Roofing Systems.

5000-969 Log #286 BLD-STR

FINAL ACTION: Accept in Principle in Part

(38.9.13)

SUBMITTER: James R. Kirby, National Roofing Contractors Association

COMMENT ON PROPOSAL NO: 5000-967

RECOMMENDATION: Modify Section 38.9.13 as follows:

38.9.13 Wood Shingles.

38.9.13.6 Flashing Requirements. (Reserved) All flashing for wood shingles shall comply with manufacturer’s requirements and this section.

38.9.13.6.1 Base and Cap flashing.

38.9.13.6.1.1 Either metal or mineral surfaced roll roofing can be used for base flashing.

38.9.13.6.1.2 Where metal is used, it shall be corrosion resistant and at least 0.019 in. thick.

38.9.13.6.1.3 Where roll roofing is used, it shall be a mineral surfaced product weighing at least 77 pounds per 100 square feet.

38.9.13.6.2 Valleys.

38.9.13.6.2.1 All steep roofs shall have valley linings.

38.9.13.6.2.2 Valley linings shall be installed prior to the application of roof covering materials.

38.9.13.6.2.3 Open valleys (i.e., valleys not covered with shingles) shall be lined with metal, or two-ply of mineral surfaced roll roofing. (A) Where metal is used, metal linings shall be at least 16 in. wide, corrosion resistant and at least 0.019 in. thick.

38.9.13.6.2.4 Open valleys shall use material complying with ASTM D 249 or ASTM D 3909.

38.9.13.6.2.5 Closed Valleys (i.e., valleys covered with shingles) shall use material that complies with ASTM D 6380 Class S Type III, Class M Type II, ASTM D 1970 or ASTM D 3909.

38.9.13.6.3 Drip Edge.
38.9.13.6.1 Flashing shall be provided at the junctures of the roof and vertical surfaces.

38.9.13.6.2 Metal flashing shall be a minimum 0.019 in. thick and corrosion resistant in accordance with ASTM F1667. They shall have a minimum 12-gauge shank and a minimum 0.375 in. diameter head.

38.9.13.6.3.1 All steep roofs shall have metal drip edges at eaves and gables.

38.9.13.6.3.2 Drip edges shall extend a minimum of 1/4 in. below the sheathing and onto the roof a minimum of 2 in.

38.9.13.6.3.3 Eave drip edges shall extend a minimum of 1/4 in. below the sheathing and onto the roof a minimum of 2 in.

38.9.13.6.3.4 Valley flashing shall extend 11 in. minimum each way from the valley centerline and have a splash diverter rib 1 in. high minimum at the base flashing. The valley flashing shall be installed to divert water.

38.9.13.6.3.5 Metal valley shall have a minimum 12-gauge shank and a minimum 0.25 in. diameter head.

38.9.13.6.3.6 All steep roofs shall have metal drip edges at eaves and gables.

38.9.13.6.3.7 Metal all steep roof shall be corrosion resistant at least 0.019 in. thick.

38.9.13.7 Fastener Requirements. (Reserved)

38.9.13.7.1 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.2 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.3 Each shingle shall be attached with a minimum of two fasteners.

38.9.13.7.4 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.5 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.6 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.7 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.8 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.7.9 Fasteners used to attach wood shingles shall be corrosion resistant.

38.9.13.8 Wind Requirements. (Reserved)

38.9.13.9 Other Requirements. (Reserved)

38.9.14 Wood Shakes.

38.9.14.1 Roof coverings designed to be applied to roofs with a minimum slope of 8:12 (100 25 mm/300 mm) shall have underlayment installed according to 38.9.14.2.
38.9.14.4.2 Underlayments used beneath wood shakes shall meet the requirements of Type I or Type II of ASTM D 226, Type I or Type II of ASTM D4869, or ASTM D6757. Perforated underlayment shall not be permitted.

38.9.14.6 Flashing Requirements. (Reserved)

All flashing for wood shakes shall comply with manufacturers requirements and this section.

38.9.14.6.1 Base and Cap Flashing.

38.9.14.6.1.1 Either metal or mineral surfaced roll roofing can be used for base flashing.

38.9.14.6.1.2 Where metal is used, it shall be corrosion resistant and at least 0.019 in. thick.

38.9.14.6.1.3 Where roll roofing is used, it shall be a mineral surfaced product weighing at least 77 pounds per 100 square feet.

38.9.14.6.1.4 Only corrosion resistant metal cap flashing shall be used.

38.9.14.6.2 Valleys.

38.9.14.6.2.1 All steep roofs shall have valley linings.

38.9.14.6.2.2 Valley linings shall be installed prior to the application of roof covering materials.

38.9.14.6.2.3 Open valleys (i.e., valleys not covered with shingles) shall be lined with metal, or two-ply of mineral surfaced roll roofing.

(B) Where mineral surfaced roll roofing is used, It shall be at least 18" wide for the bottom layer and at least 56 " wide for the top layer.

38.9.14.6.2.4 Open valleys shall use material complying with ASTM D 249 or ASTM D 3909.

38.9.14.6.2.5 Closed Valleys (i.e., valleys covered with shingles) shall use material that complies with ASTM D 6380 Class S Type III, Class M type II, ASTM D 1970 or ASTM D 3909.

38.9.14.6.3 Drip Edge.

38.9.14.6.3.1 All steep roofs shall have metal drip edges at eaves and gables.

38.9.14.6.3.2 All metal drip edges shall be corrosion resistant and at least 0.019 in. thick.

38.9.14.6.3.3 Drip edges shall extend a minimum of 1/4" below the sheathing and onto the roof a minimum of 2 in.

38.9.14.6.3.4 Chimneys’ wider than 24 in. shall have crickets or saddles installed to divert water.

38.9.14.7 Fastener Requirements. (Reserved)

38.9.14.7.1 Fasteners used to attach wood shakes shall be corrosion resistant, in accordance with ASTM F1667. They shall have a minimum 1-2 gauge shank and a minimum 0.375 in. diameter head.

38.9.14.7.2 Roof deck penetrations of fasteners shall be a minimum of 0.75 in., or when the deck sheathing is less than 0.75 in. penetration shall be through the sheathing. Each shingle shall be attached with a minimum of two fasteners.

38.9.14.8 Wind Hazards. (Reserved)

38.9.14.9 Other Requirements. (Reserved)

SUBSTANTIATION: This comment is from the Task Group on Roofing.

In 38.9.14.4.1, underlayment requirements need to be consistent with the slope requirements of the system.

In 38.9.14.6, the proposed wording clarifies the requirements for flashing applications and products.

In 38.9.14.7, the change establishes the requirements for attachment of wood shakes.

In 38.9.14.8, there are no special wind requirements exist for wood shakes.

In 38.9.14.9, there are no other requirements for wood shakes.

COMMITTEE MEETING ACTION: Accept in Principle in Part


Accept in Principle: Modify 38.9.14.7 to read as follows:

38.9.14.7.2 Fasteners are used to attach wood shakes shall be corrosion resistant.

38.9.14.7.2.1 Roof deck penetrations of fasteners shall be a minimum of 0.75 in., or when the deck sheathing is less than 0.75 in. penetration shall be through the sheathing. Each shingle shall be attached with a minimum of two fasteners.

38.9.14.7.3 Each shingle shall be attached with a minimum of two fasteners.


COMMITTEE STATEMENT: The Technical Committee chose to reject the modifications to 38.9.14.6.1, 38.9.14.6.2, 38.9.14.6.3.1, 38.9.14.6.3.2, 38.9.14.6.3.3, which are asphalt shingle requirements and are not applicable to wood shakes.

The Technical Committee made the modifications to 38.9.14.7 to correct the fastener requirements for wood shakes.

See Comment 5000-701 for complete package of modifications to Section 38.9.14 of Proposal 5000-967.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLEGERTEN, NOVAK, ROSSBERG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE: NACHEMAN: See my Affirmative with Comment 5000-4.
The TC modified Proposal 5000-967, sections 38.9.3.2 (BUR) and 38.9.6.2 (Mod Bit), according to the modified proposal. This modification should only be incorporated into section 38.9.3.2 (BUR) and should be incorporated into section 38.9.6.2 (Mod Bit).

COMMITTEE MEETING ACTION: Accept in Principle

Modify Section 38.9.3.2 and 38.9.6.2 as follows:
38.9.3.2 Slope Requirements. BUR roof assemblies shall slope at least 1/4 in. per ft (60 mm/300 mm) toward drains or roof eave. Coal tar built-up roof coverings or roofs specifically designed to retain water shall have a minimum slope of 1/8 in. per ft (37.5 mm/1000 mm) or 1/8 in. per ft (17.9 mm/2000 mm) if specifically designed to retain water. 38.9.6.2 Slope Requirements. Modified bitumen roof assemblies shall slope at least 1/4 in. per ft (60 mm/300 mm) toward drains or roof eave. Coal tar built-up roof coverings or roofs specifically designed to retain water shall have a minimum slope of 1/8 in. per ft (37.5 mm/1000 mm) or 1/8 in. per ft (17.9 mm/2000 mm) if specifically designed to retain water.

COMMITTEE STATEMENT: The Technical Committee notes that Proposal 5000-1013 was incorporated into two sections, 38.9.3.2 and 38.9.6.2, of Proposal 5000-967. Therefore, this comment has been changed to address both sections. In Section 38.9.6.2, the second sentence was deleted because it is not applicable to modified bitumen roof assemblies.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROBBESG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-703 Log #477 BLD-STR

FINAL ACTION: Reject

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-1015

RECOMMENDATION: Add new text as follows:
38.11.4.1 Over Public Property. Roof drainage water from the building shall not be permitted to flow over someone else’s private property without written promising from all parties. Water may enter on property into a public system if allowed by the authority having jurisdiction.

SUBSTANTIATION: This new text will protect the next door property. One should not be allowed to have rain water run on to my property and cause damage.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The Technical Committee chose to reject this Comment. As written, this language is unenforceable, since it describes a contractual obligation. Also, the commenter does not provide evidence of substantial damage occurring in this situation.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 21 Abstain: 1

BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROBBESG, WREN

EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.

COMMENT ON AFFIRMATIVE

NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-704 Log #470a BLD-STR

FINAL ACTION: Reject

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-1067

RECOMMENDATION: Revise to read as follows:
4.6.1.1 Roof Access.
4.6.1.1 Structures shall provide means of access to the roof in accordance with Section 4.6 in cases where the roof is flat or the roof has a pitch less than 3 in. 12, and the structure either is four or more stories in height or the roof is 40 ft (12 m) or more above grade for more than 50 percent of the building perimeter.
4.6.1.2 Where required by 4.6.1.1, at least one means of access to the roof shall be provided. Additional access shall be provided at the rate of one access for each 100,000 ft² (9300 m²) of roof area.
4.6.1.3 Where roof access is required, at least one means of access shall be provided by stairs complying with 11.2.2.3. Additional roof access using ladders in accordance with 11.2.9 shall be permitted.
4.6.1.4 Where roof access is required, such access shall be provided with a door that is readily operable from both sides by fire department personnel.

SUBSTANTIATION: Chapter 4 is the goal and objectives chapter. The requirements of Section 4.6 are code requirements and should be located in Chapter 49.

See 5000-1067 (Log #137b) the committee request that this goes to Chapter 38.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this Comment. This topic more appropriately belongs in a chapter on general requirements for building design, which is Chapter 4 of NFPA 5000. Chapter 38 focuses primarily on roof assemblies.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN
EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE
NACHEMAN: See my Affirmative with Comment on 5000-4.

COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: No further action required by BLD-FUN.
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-708 Log #183b BLD-BSF FINAL ACTION: Accept in Principle
(Chapter 40)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1022
RECOMMENDATION: Give consideration to the expansion of subjects as noted in McElvaney’s comment on affirmative so as to make any needed changes.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

5000-710 Log #183d BLD-FIR FINAL ACTION: Accept in Principle
(Chapter 40)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1022
RECOMMENDATION: Give consideration to the expansion of subjects as noted in McElvaney’s comment on affirmative so as to make any needed changes.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
The committee gave consideration to the submitter’s recommendation. No specific action is necessary.
COMMITTEE STATEMENT: The committee finds no reason to revise Chapter 40 for the materials pertaining to fire protection features.
NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 22

5000-707 Log #183a BLD-FUN FINAL ACTION: Accept in Principle
(Chapter 40)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1022
RECOMMENDATION: Give consideration to the expansion of subjects as noted in McElvaney’s comment on affirmative so as to make any needed changes.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
The Technical Committee is not opposed to adding these topics; however, the technical content of these sections is beyond the scope of this committee. The Technical Committee recommends that, if other committees chose to add these topics, they be added as separate sections at the end of this chapter.

5000-711 Log #183c BLD-STR FINAL ACTION: Accept in Principle
(Chapter 40)
COMMITTEE MEETING ACTION: Accept
SUBSTANTIATION:
JONES: See my Affirmative on Comment 5000-4.
COMMENT ON AFFIRMATIVE:
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-711a Log #CC3 BLD-STR
FINAL ACTION: Accept
SUBMITTER: Technical Committee on Structures and Construction
COMMENT ON PROPOSAL NO: 5000-1022
RECOMMENDATION: Modify 40.1.3.8 as follows:
40.1.3.8 Special Inspection. Inspection performed by inspection agents under the direction of the RDP responsible for inspection to assure conformance with the approved construction documents. Inspection required by Chapter 1 is not included.
SUBSTANTIATION: This is an editorial correction to the definition.
COMMITTEE MEETING ACTION: Accept
SUBSTANTIATION:
JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE:
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-711b Log #CC4 BLD-STR
FINAL ACTION: Accept
SUBMITTER: Technical Committee on Structures and Construction
COMMENT ON PROPOSAL NO: 5000-1022
RECOMMENDATION: Modify 40.1.3.10 as follows:
40.1.3.10 Structural Observation. The periodic observation of the structural portions of the construction by the RDP responsible for design or another RDP designated by the RDP responsible for design, to determine if the work is proceeding in general conformance with the approved construction documents. Structural observation does not include, or waive the requirements for, special inspection as required by this code.
SUBSTANTIATION: This is an editorial correction to the definition and eliminates an incorrect reference to Chapter 1.
COMMITTEE MEETING ACTION: Accept
SUBSTANTIATION:
JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE:
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-711c Log #CC5 BLD-STR
FINAL ACTION: Accept
SUBMITTER: Technical Committee on Structures and Construction
COMMENT ON PROPOSAL NO: 5000-1022
RECOMMENDATION: Modify 40.2.5.4 as follows:
40.2.5.4 The RDP responsible for design shall perform review of technical documents for all deferred submittal items for general conformance to the RDP's design and shall include them in the quality assurance program.
SUBSTANTIATION: This is an editorial correction to the section.
COMMITTEE MEETING ACTION: Accept
SUBSTANTIATION:
JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE:
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-712 Log #347 BLD-STR
FINAL ACTION: Accept in Principle
COMMENT ON PROPOSAL NO: 5000-450
RECOMMENDATION: Add new text to read as follows:
40.9.x Inspection of through-Penetration firestop systems of the types specified tested in accordance with 8.8.2 shall be conducted in accordance with ASTM E2174, Standard Practice for On-Site Inspection of Installed Fire Stops.
SUBSTANTIATION: As the proponent of Log #508, I fully support the TC action on this item. I do note from the manifest that, for some reason, some TC members have indicated they did not see the copy of the Standard I submitted with my original proposal. The same standard is identified in Log #723 and indications are that it was available at the time of the committees review. After consulting with staff in an effort to avoid any confusion, I am resubmitting a copy of the standard as part of this public comment.
Note: Supporting material is available for review at NFPA Headquarters.
COMMITTEE MEETING ACTION: Accept in Principle
See Committee Action on Comment 5000-713.
COMMITTEE STATEMENT: See Committee Statement on Comment 5000-713.
SUBSTANTIATION:
JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE:
NACHEMAN: See my Affirmative with Comment on 5000-4.

5000-713 Log #348 BLD-STR
FINAL ACTION: Accept in Principle
COMMENT ON PROPOSAL NO: 5000-1166
RECOMMENDATION: Revise as follows:
40.9.1 Inspection of through Penetration firestop systems of the types tested in accordance with 8.8.2 shall be conducted in accordance with ASTM E2174, Standard Practice for On-site Inspection of Installed Fire Stops.
40.9.2 Inspection of Fire Resistive joint systems of the types tested in accordance with 8.9.2 shall be conducted in accordance with ASTM E2393, Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers.
SUBSTANTIATION: The Committee had previously rejected this proposal based on the fact that the Standard for Fire Resistive joints had not been published as of December 2003. It is my understanding that this standards has now been approved by ASTM E5, and has been assigned the number designation ASTM E2393. The language proposed was developed by the TC in connection with Proposal No. 5000-450 (Log #508). In that case, the TC also felt that the proposed new requirement, which pertains to quality assurance, is more appropriately located in the body of Chapter 40 of the code.
COMMITTEE MEETING ACTION: Accept in Principle
Revise as follows:
40.9 Quality Assurance for Penetrations and Joints. A quality assurance program for the installation of devices and systems installed to protect penetrations and joints firestop systems and devices and systems installed to protect joints shall be prepared and monitored by the RDP responsible for design. Inspections of firestop systems and fire resistive joint systems shall
41.5.3 The sentence proposed to be added to Section 21.2.5.1 of ACI 318 has been added to ACI 318-05. Note that this added sentence is controversial and presumably public comments were submitted to ACI recommending that it be deleted.

41.5.6 The modifications to ACI 318-02, Section 21.11.1, and new Section 21.11.5 added to ACI 318-02 by ASCE 7-05 have been incorporated into ACI 318-05; therefore, they are not needed in Section 14.2.2.9. The Technical Committee would have recommended a Committee Action of “ACCEPT”. Consequently, this action requests that the TCC change the Committee Action at its ROC Meeting.

Also, there is a possibility that the modification in 41.5.3 of this comment will not appear in ACI 318-05. If it does not appear, this section (41.5.3) will not be necessary and, thus, should be removed.

5000-714 Log #184 BLD-MAT FINAL ACTION: Accept in Principle

5000-714 Log #184 BLD-MAT

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update referenced documents in Chapter 3.

5000-716 Log #185 BLD-MAT

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update referenced documents in Chapter 3.

5000-716a Log #CC101 BLD-MAT

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update referenced documents in Chapter 3.

5000-716a Log #CC101 BLD-MAT

SUBMITTER: Technical Correlating Committee on Building Code

RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update referenced documents in Chapter 3.
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1039
RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update referenced documents in Chapter 2.
2. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005.
3. Update and coordinate any changes in Chapter 44 based upon the 2004 editions of AISI NASPEC: AISI General; AISI Lateral Design; AISI Specification; AISI Seismic.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Part
Accept: Items 1 and 2, and the AISI specifications in Item 3.
Reject: The AISI documents in Item 3.
COMMITTEE STATEMENT: See Committee Statement on Comment 5000-718 for further information on the status of the AISC documents.

SUBMITTER: Harry W. (Hank) Martin, American Iron and Steel Institute
COMMENT ON PROPOSAL NO: 5000-1040
RECOMMENDATION: Revise and add a new section as follows:
44.7 Cold-Formed Steel Framing...
44.7.1 General. The design, installation, and construction of cold-formed steel for structural and nonstructural framing shall be in accordance with...3) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: Please note, the change to Section 2.3.7 has been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBMITTER: Harry W. (Hank) Martin, American Iron and Steel Institute
COMMENT ON PROPOSAL NO: 5000-1041
RECOMMENDATION: Revise text as follows:
44.7 Cold-Formed Steel Framing...
44.7.1 General. The design, installation, and construction of cold-formed steel for structural and nonstructural framing shall be in accordance with...3) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: Please note, the change to Section 2.3.7 has been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1042
RECOMMENDATION: Revise and add a new section as follows:
44.7 Cold-Formed Steel Framing...
44.7.1 General. The design, installation, and construction of cold-formed steel for structural and nonstructural framing shall be in accordance with...3) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: Please note, the change to Section 2.3.7 has been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1043
RECOMMENDATION: Add a new reference as follows:
COMMITTEE MEETING ACTION: Accept in Part
COMMITTEE STATEMENT: This proposal was rejected because the standard was not completed at the time of the ROC meeting. This new Wall Stud Standard has now been approved by the AISI Committee on Framing Standards and will be published by the time of the ROC meeting. Currently cold-formed steel studs are designed in accordance with the AISI North American Specification, which concentrates on member (i.e., component) design. The new AISI Standard for Cold-Formed Steel Framing—Wall Stud Design considers the system behavior. The 2004 edition of the Wall Stud Standard provides 1) a more intuitive methodology for sheathing braced design, 2) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 3) a methodology for sizing deflection track, and 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1044
RECOMMENDATION: Add a new reference as follows:
COMMITTEE MEETING ACTION: Accept in Part
COMMITTEE STATEMENT: This proposal was rejected because the standard was not completed at the time of the ROC meeting. This new Wall Stud Standard has now been approved by the AISI Committee on Framing Standards and will be published by the time of the ROC meeting. Currently cold-formed steel studs are designed in accordance with the AISI North American Specification, which concentrates on member (i.e., component) design. The new AISI Standard for Cold-Formed Steel Framing—Wall Stud Design considers the system behavior. The 2004 edition of the Wall Stud Standard provides 1) a more intuitive methodology for sheathing braced design, 2) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 3) a methodology for sizing deflection track, and 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.

SUBMITTER: American Iron and Steel Institute
COMMENT ON PROPOSAL NO: 5000-1045
RECOMMENDATION: Change the short title for AISI CFSD to AISI General.
COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: This proposal was rejected because the standard was not completed at the time of the ROC meeting. This new Wall Stud Standard has now been approved by the AISI Committee on Framing Standards and will be published by the time of the ROC meeting. Currently cold-formed steel studs are designed in accordance with the AISI North American Specification, which concentrates on member (i.e., component) design. The new AISI Standard for Cold-Formed Steel Framing—Wall Stud Design considers the system behavior. The 2004 edition of the Wall Stud Standard provides 1) a more intuitive methodology for sheathing braced design, 2) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 3) a methodology for sizing deflection track, and 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1046
RECOMMENDATION: Add a new reference as follows:
COMMITTEE MEETING ACTION: Accept in Part
COMMITTEE STATEMENT: This proposal was rejected because the standard was not completed at the time of the ROC meeting. This new Wall Stud Standard has now been approved by the AISI Committee on Framing Standards and will be published by the time of the ROC meeting. Currently cold-formed steel studs are designed in accordance with the AISI North American Specification, which concentrates on member (i.e., component) design. The new AISI Standard for Cold-Formed Steel Framing—Wall Stud Design considers the system behavior. The 2004 edition of the Wall Stud Standard provides 1) a more intuitive methodology for sheathing braced design, 2) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 3) a methodology for sizing deflection track, and 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1047
RECOMMENDATION: Add a new reference as follows:
COMMITTEE MEETING ACTION: Accept in Part
COMMITTEE STATEMENT: This proposal was rejected because the standard was not completed at the time of the ROC meeting. This new Wall Stud Standard has now been approved by the AISI Committee on Framing Standards and will be published by the time of the ROC meeting. Currently cold-formed steel studs are designed in accordance with the AISI North American Specification, which concentrates on member (i.e., component) design. The new AISI Standard for Cold-Formed Steel Framing—Wall Stud Design considers the system behavior. The 2004 edition of the Wall Stud Standard provides 1) a more intuitive methodology for sheathing braced design, 2) a procedure for evaluating the stud-to-track end gap in curtain wall framing, 3) a methodology for sizing deflection track, and 4) rules for designing intermediate braces for axially loaded members. Thus it is appropriate to still allow designers to use the AISI NAS but permit them the option of using this new AISI Standard for Wall Stud Design.
SUBSTANTIATION: This proposal was rejected because the standards were not completed at the time of the ROC meeting. All of the above reference standards have been approved by the AISI Committee on framing Standards and will be published by the time of the ROP meeting. The new Lateral Standard is the next generation of design requirements that are currently in NFPA 5000.

COMMITTEE MEETING ACTION: Accept
COMMITTEE STATEMENT: Please note, the change to Section 2.3.7 has been incorporated into the Committee Recommendation on Comment 5000-98a (Log #CC102).

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-721a Log #CC109 BLD-MAT
(45.5.15.2.2.2(3))

FINAL ACTION: Accept

SUBMITTER: Technical Committee on Materials

COMMENT ON PROPOSAL NO: N/A

RECOMMENDATION: Modify 45.5.15.2.2.2(3) as follows: 45.5.15.2.2.2(3) Each manufacturer shall publish the modification factors for service at ambient temperatures of up to 100°F (37.8°C) and for service as roof framing.

SUBSTANTIATION: These changes coordinate with modifications accepted on Comment 703-7.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-721b Log #CC110 BLD-MAT
(45.5.15.5)

FINAL ACTION: Accept

SUBMITTER: Technical Committee on Materials

COMMENT ON PROPOSAL NO: N/A

RECOMMENDATION: Modify 45.5.15.5 as follows: 45.5.15.5 Moisture Content. fire retardant-treated wood shall have a moisture content...

SUBSTANTIATION: These changes coordinate with modifications accepted on Comment 703-9.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-722a Log #CC106 BLD-MAT
(46.5.1.1.2)

FINAL ACTION: Accept


COMMENT ON PROPOSAL NO: 5000-1047

RECOMMENDATION: Revise the language accepted in the proposal as follows:
5. Laser burned

SUBSTANTIATION: The proposed revision is editorial in nature. The other items listed in the section are formatted consistent with the language proposed herein.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 19

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 2 HOGAN, VEITAS
COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: In light of Comment 5000-96, the Technical Committee had to reject this comment, since the ASTM stand alone standards recommended for deletion have not yet been withdrawn officially. However, if they had been withdrawn prior to this Technical Committee’s ROC Meeting, the Technical Committee would have recommended a Committee Action of “Accept”. Consequently, the Technical Committee requests that the TCC change the Committee Action at its ROC Meeting.

NUMER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-723 Log #187a BLD-FUR FINAL ACTION: Accept in Principle (48.3.3 and 48.4.4)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1054
RECOMMENDATION: Give consideration to applicability of the smoke production criteria as noted in Koffel’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Add an annex note to 10.4.3.1 to read as follows:
A.10.4.3.1. Both NFPA 286 and UL 1715 contain smoke obscuration criteria. UL 1040 and FM 4880 do not. Smoke obscuration is an important component of the fire performance of cellular or foam plastic materials.

COMMITTEE STATEMENT: This provides advisory information on the test methods that are commonly used in evaluating cellular and foamed plastic materials, and clarifies that the four tests are not equivalent and that smoke obscuration is relevant measure of fire.

NUMBER ELIGIBLE TO VOTE: 11
BALLOT RESULTS: Affirmative: 11

5000-724 Log #187b BLD-MAT FINAL ACTION: Accept in Principle (48.3.3 and 48.4.4)

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from ACCEPT to “ACCEPT IN PRINCIPLE-The TC did review the issue and is reaffirming its original position on Proposal 5000-1054.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1054
RECOMMENDATION: Give consideration to applicability of the smoke production criteria as noted in Koffel’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Further consideration was given on this item in Comment 5000-769.

NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS

5000-725 Log #467 BLD-BSY FINAL ACTION: Accept in Principle (49.2.2.9 (New))

SUBMITTER: Joe McElvaney Phoenix, AZ
COMMENT ON PROPOSAL NO: 5000-1060
RECOMMENDATION: Add new text to read as follows:
49.2.2.9 Residential Board and Care occupancies shall be provided with heating and cooling facilities capable of maintaining room temperatures between 70°F (21°C) at a point 3 ft (914 mm) above the floor in all habitable rooms.

SUBSTANTIATION: NFPA 5000 Chapter 51 requires one to have energy efficient methods of heating, ventilation and air conditioning systems. ASHRAE 90.1 and 90.2 are called out. This code requirement will protect one and all from the cold and hot days.

DETECT COMMITTEE MEETING ACTION: Accept in Principle

Delete 49.7.3 and replace with the following:
49.7.3 Indoor winter design conditions for all occupancies shall be within the winter comfort zone as published in ASHRAE 55, Thermal Environmental Conditions for Human Occupancy, and the ASHRAE Handbook of Fundamentals, unless otherwise established by the authority having jurisdiction.

49.7.3.1 Indoor winter design conditions for Residential Board and Care occupancies shall be within the winter and summer comfort zones as published in ASHRAE 55, Thermal Environmental Conditions for Human Occupancy, and the ASHRAE Handbook of Fundamentals, unless otherwise established by the authority having jurisdiction.

COMMITTEE STATEMENT: While the committee feels that the text is not appropriate for all residential occupancies, the committee agrees that it is appropriate for Residential Board and Care.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 14
BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

COMMENT ON AFFIRMATIVE

KEY: The committee had a great deal of discussion on this issue and whether or not the building code should identify cooling design conditions. In addition, the committee had a great deal of discussion on the regulation of cooling for residential. In my opinion, there is a residential occupancy that the building code should address the cooling requirements. That occupancy is Residential Board and Care. This particular occupancy has become very popular in recent years for the care of the elderly living in a residential setting. Many businesses have established this type of care. Without some guidance to minimum requirements for these occupancies, many who enter these facilities may not have their minimum needs met with the facilities to which they will be subscribing. Most of those that enter these facilities remain there until their deaths. Because these facilities are alternatives to nursing homes, requirements for cooling are necessary.

In many parts of the country the requirements identified will not be difficult to meet and no equipment other than operable windows is necessary. In other areas of the country, simple means such as evaporative coolers or just fans are all that are necessary. For those areas of the country that require equipment to achieve the requirements, cooling is necessary for the well being of the occupants.

5000-726 Log #188a BLD-BSY FINAL ACTION: Accept in Principle (49.5.2 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that this action be revised from “ACCEPT IN PRINCIPLE be retained, and that the following be added as a part of the committee statement. See committee action on 5000-726 where the revision to 49.5.2 is shown.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1063
RECOMMENDATION: Review the introduction of minimum ceiling height that differs from the requirement of 11.1.5 and 22.6.2.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Delete Section 49.5 and replace as follows:
49.5 Interior Space Dimensions.
49.5.1 Ceiling Heights.
49.5.1.1 In all occupancies, ceilings of habitable rooms shall be designed and maintained to provide headroom as provided in other sections of this Code and shall be not less than 7 ft 6 in. (2286 mm) with projections from the ceiling not greater than 6 ft 8 in. (2032 mm) above the finished floor. The minimum ceiling height shall be maintained for not less than two-thirds of the ceiling area of any room or space, provided the ceiling height of the remaining area is not less than 6 ft 8 in. (2032 mm).
49.5.1.1.1 Hallways in 1 and 2 family dwellings shall comply with 22.2.6.2.
49.5.1.2 Rotary fan blades in all occupancies shall be protected where the blades of the fan are located within 7 ft (2134 mm) of the finished floor. They shall be protected with guards with openings that will prohibit the passage of a -in. (12.7-mm) sphere.
49.5.1.3 Rotary fan blades in dwelling units located not less than 6 ft 8 in. (2032 mm) above the finished floor shall not be required to be protected with guards.
49.5.2 Minimum Room Dimensions: In Residential Occupancies, habitable rooms other than a kitchen shall be not less than 7 ft (2135 mm) in any plan dimension.

COMMITTEE STATEMENT: The committee has revised the text to be consistent with other sections.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 13 Abstain: 1
BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

EXPLANATION OF ABSTENTION:
ELVOVE: I did not attend the meeting so I am not privy to the discussion that transpired on this subject. Nor can I ascertain the specific action taken by the committee by reading the committee substantiation to this comment stating: “The Committee has revised the text to be consistent with other sections.” Was Proposal 5000-1063 revised during the ROC meeting, or is the Committee stating that it already took the TCC’s concern into consideration when the proposal was original accepted? In any event, I do have concerns regarding Proposal 5000-1063 as written and have suggested it be revised (in my response to TC-RES Comment 5000-728) so ceiling height requirements only apply to One and Two-Family Dwellings and Lodging and Rooming Houses (which are not governed by Chapter 11, Means of Egress requirements) instead of being applicable to all Residential Occupancies. In addition, this new section needs to be revised editorially so ceiling height requirements are kept together within 49.5.1 and room dimension criteria is listed under 49.5.2.
5000-727 Log #188d BLD-BSY 
**FINAL ACTION: Accept in Principle**

(49.5.2 (New) )

SUBMITTER: Technical Correlating Committee on Building Code 
**COMMENT ON PROPOSAL NO:** 5000-1063 
**RECOMMENDATION:** Revise the introduction of minimum ceiling height that differs from the requirement of 11.1.5 and 22.2.6.2. 
**SUBSTANTIATION:** See the above recommendation. 
**COMMITTEE MEETING ACTION:** Accept in Principle 
No action needed by BLD-MEA. 
**COMMITTEE STATEMENT:** The BLD-MEA committee deems to BLD-RES on this issue because it addresses space within a dwelling unit. Such space is subject to the requirements for means of escape, not means of egress. 
**NUMBER ELIGIBLE TO VOTE:** 24 
**BALLOT RESULTS:** Affirmative: 23 Abstain: 1 
**EXPLANATION OF ABSTENTION:** 
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains from this NFPA 5000 action.

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5000-727 Log #188d BLD-BSY
**FINAL ACTION: Accept in Principle**

(49.5.2 (New) )

SUBMITTER: Technical Correlating Committee on Building Code 
**COMMENT ON PROPOSAL NO:** 5000-1063 
**RECOMMENDATION:** Revise the introduction of minimum ceiling height that differs from the requirement of 11.1.5 and 22.2.6.2. 
**SUBSTANTIATION:** See the above recommendation. 
**COMMITTEE MEETING ACTION:** Accept in Principle 
**COMMITTEE STATEMENT:** The committee recognizes that the manual of style does not want exceptions used in code text, however, due to the fact that ADA/ABA-AG are Federal Guidelines that will be enforced, it feels that it is better to be consistent with the Federal language at least for this edition and therefore has not reworded the exceptions. 
**NUMBER ELIGIBLE TO VOTE:** 20 
**BALLOT RESULTS:** Affirmative: 13 Negative: 1 
**BALLOT NOT RETURNED:** 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE 
**EXPLANATION OF NEGATIVE:** 14 
ELVOLVE: Committee action should be change to “reject” as they did not accept the TCC’s comment to remove the use of exceptions to comply with NFPA Manual of Style. Note: In a separate ballot response to Comment 5000-729 (a comment by the TC-RES to modify ROP 5000-1063), I have suggested language that would remove the exceptions.

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5000-729 Log #189a BLD-BSY 
**FINAL ACTION: Accept in Principle**

(50.3 (New) ) 

TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, but that the committee statement should have referenced comment 5000-731. 
**SUBMITTER:** Technical Correlating Committee on Building Code 
**RECOMMENDATION:** Give consideration to the expansion of subjects as noted in Elvolve’s comment on affirmative so as to make any needed changes. 
**SUBSTANTIATION:** See the above recommendation. 
**COMMITTEE MEETING ACTION:** Accept in Principle 
**COMMITTEE STATEMENT:** The committee understands that MEA chose to leave the text in this Chapter at this point under Comment 5000-350. No further action by this committee in required. 
**NUMBER ELIGIBLE TO VOTE:** 20 
**BALLOT RESULTS:** Affirmative: 13 Negative: 1 
**BALLOT NOT RETURNED:** 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE 

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5000-731 Log #189b BLD-MEA 
**FINAL ACTION: Accept in Principle**

(50.3 (New) ) 

TCC Action: The Technical Correlating Committee (TCC) directs that this action of “ACCEPT IN PRINCIPLE be retained, and that the action on 5000-732 also be noted as a comment. 
**SUBMITTER:** Technical Correlating Committee on Building Code 
**COMMENT ON PROPOSAL NO:** 5000-1069 
**RECOMMENDATION:** Review this proposal and determine where this subject is best handled in the code. 
**SUBSTANTIATION:** See the above recommendation. 
**COMMITTEE MEETING ACTION:** Accept in Principle 
**COMMITTEE STATEMENT:** The BLD-MEA committee supports the material for Chapter 50, but offers two corrections for proper terminology and consistency with Chapter 11. 
**NUMBER ELIGIBLE TO VOTE:** 24 
**BALLOT RESULTS:** Affirmative: 23 Abstain: 1 
**EXPLANATION OF ABSTENTION:** 
BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.
500.3.1.2 Travel Distance. Travel distance shall be determined as specified by MEC on 5000-731.

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-1069

RECOMMENDATION: Review this proposal and determine any additional criteria that should be included.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: The committee is aware that portions of Section 50.3 are in conflict with ASHRAE 15 and need to be corrected and resolved.

NUMBER ELIGIBLE TO VOTE: 29

BALLOT RESULTS: Affirmative: 22 Negative: 1 Abstain: 2

BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

EXPLANATION OF NEGATIVE:

ALLISON: I agree with the statements made by Elove in rejecting the original proposal 5000-1069. Section 11.12 was specifically included to address the issue of exit access doorways. The entrance of the Emergency Equipment Rooms, Boiler Rooms and Furnace Rooms. These egress doorways are deemed prudent for Refrigeration Rooms, they should be addressed in this section and not in Section 50.3. However, I am not opposed to the proposals the committee accepted during the ROP and ROC, just the location for the egress requirements.

EXPLANATION OF ABSTENTION:

MCCLAUGHLIN: I am abstaining because I have a client, other than the organization I represent on the Committee, who may be impacted by the proposal.

However, in response to the committee statement that they are aware of conflicts with ASHRAE 15 that “need to be corrected and resolved”, I am providing the following information. ASHRAE 15, Section 8.12(c) requires a one hour fire resistive separation between a mechanical equipment room and any other occupied space. If the TCC chooses to address the issue, correlation could be provided by deleting the sentence, “When a refrigeration machinery room is required, it shall be separated from the remainder of the building or located on the property as required by 34.3.2.3 for hazardous level four (4) regardless of area.”

It is also noted that ASHRAE 15 does not address the issue of unprotected structural supports. The provision that, “structural supporting elements shall be protected only for the type of construction and not the occupancy separation”, is consistent with other building codes, and if removed, will prohibit these rooms on upper floors of non-rated construction.

SHAPIRO: I have a client interest not associated with the interest that I represent on the committee that will be affected by this comment, so I am abstaining from casting a vote. Nevertheless, I would like to echo Mr. McLaughlin’s comments regarding conflicts between the text proposed for Section 50.3 and the ANSI standard charged with regulating machinery rooms for refrigeration, ANSI/ASHRAE 15. It is appropriate that the TCC take action on this item to remove conflicts with the ANSI/ASHRAE standard, the need for which was recognized by the BLD-IND technical committee as indicated in the committee statement.

BLD-IND did not recommend a specific action given that several technical committees were apparently working on this issue at the time they reviewed it; however, the TCC may wish to consider the following text as a solution that resolves the ANSI/ASHRAE 15 correlation issue and corrects misdirected references within NFPA 5000 (modifications shown to proposed Section 50.3 are as compared to text of Proposal 5000-1069, as published in the ROP):


50.3 Refrigeration Machinery Room. Refrigeration systems shall comply with this Code. When a refrigeration machinery room is required, it shall be separated from the remainder of the building or located on the property as required by ANSI/ASHRAE 15, 44.2.2, for hazardous level four (4) regardless of area. Structural supporting elements shall be protected only for the type of construction and not the occupancy separation. Means of egress from the machinery room shall comply with 50.3.1. Nothing contained herein shall be used to limit the height or area of the fire-resistive construction. The refrigeration system, its refrigerant and its safety devices shall be maintained in accordance with this code, the Mechanical Code and ANSI/ASHRAE 15.

50.3.1 Refrigeration Machinery Room Egress.

50.3.1.1 Access to Exits. Machinery rooms larger than 1,000 ft² shall have access to not less than two exits.

50.3.1.2 Travel Distance. Travel distance shall be determined as specified in Section 29.2.4.12 Mechanical Equipment rooms, but all portions of the machinery room shall be within 150 ft (45720 mm) of an exit or exit access doorway.

NPFA 5000-503.1.2 - Travel distance to exits for industrial occupancies, such as refrigeration machinery rooms, is established by NFPA 5000:29.2, which references Chapter 11 as appropriate. It is appropriate for NFPA 5000 to establish a travel distance limit because ANSI/ASHRAE 15 doesn’t establish a specific number.

NPFA 5000:503.1.3 - Regarding doors, ANSI/ASHRAE 15:8.11.2 sets the following requirement: “Each refrigerating machinery room shall have a tight-fitting door or doors opening outward, self-closing if they open into the building.” There is no apparent need for NFPA 5000 to conflict with or duplicate these provisions since anyone designing a machinery room is required to use ANSI/ASHRAE 15 as a basis of design.

5000-733 Log #190 BLD-BSY FINAL ACTION: Accept in Principle (51.3)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-1072

RECOMMENDATION: 1. Provide any specific comments or actions as necessary to update the referenced documents in Chapter 2.

2. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005.

3. Update and coordinate any changes in Chapter 51 based upon the 2004 edition of ASHRAE 90.2.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: 1. Provide any specific comments or actions as necessary to update the referenced documents in Chapter 2.

The updated references are included in Committee Comment 5000-98c (Log #CC352).

2. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005.

ASHRAE 90.2 - 2004 is due to be published and available December 2004. ASHRAE 90.1 - 2004 is due to be published and available January 2005.

3. Update and coordinate any changes in Chapter 51 based upon the 2004 edition of ASHRAE 90.2.

No further action recommended.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECLEARE

5000-734 Log #191 BLD-FIR FINAL ACTION: Accept in Principle (54.4.4)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-1079

RECOMMENDATION: Provide any specific comments for correlation purposes to this change in Chapter 8.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

In four places in 54.4.3, as modified by Proposal 5000-1078, the committee recommends that the term “construction” be replaced with the term “fire barrier walls”.

COMMITTEE STATEMENT: The committee believes that the opening protection correctly corresponds to that in Table 8.7.2 for fire barrier walls. The committee recommends the editorial change to reflect the more accurate terminology.

NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 22

COMMENT ON PROPOSAL NO: 5000-204
RECOMMENDATION: Delete requirement for pictograph in proposed referenced edition of ASME A17.1.

COMMITTEE MEETING ACTION: Accept in Principle

The committee now reverses its action on 5000-1081 as the requirement now exists in ASME A17.1

COMMITTEE STATEMENT: ASME has revised A17.1 to include this requirement and the committee agrees with the deletion.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 14
BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDONELLI, SIGIEL, VAN BECELAERE

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: No new information has been provided by the submitter. The committee stands on its substantiation for the rejection of Proposal 5000-1090. See Comment 5000-769a (Log #CC301) for proposed annex language to explain the intent of the manual fire alarm box required by 55.2.1.1.5.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 16 Negative: 1
BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

EXPLANATION OF NEGATIVE: A COMMENTER: The requirement for when the manual pull station is required belongs in, and is located in the occupancy chapters. Each occupancy chapter in NFPA 5000 establishes when a manual system is required, when one manual alarm box is required when automatic devices are used for activating the alarm system, or when all manual alarm boxes may be omitted while using automatic devices are used to activate the alarm system. Leaving this in Chapter 55 creates conflicts with the occupancy chapters.

Accepting the comment would remove the conflicts that this generates with those occupancy chapters that allow the omission of all manual alarm boxes (Assembly, Lodging and Rooming, Apartments, Business).

SUBMITTER: Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm Systems

COMMENT ON PROPOSAL NO: 5000-1092
RECOMMENDATION: Accept Proposal 5000-1092.

SUBSTANTIATION: With reference to the substantiation in Proposals 5000-1093 and 5000-1094, which were the basis for the TCC Action on Proposal 5000-1092, the Technical Committee on Single- and Multiple-Station Alarms and Household Fire Alarm systems disagrees with the statement “Siting locations, as referenced in the NFPA 72 committee scope, should be limited to location with respect to distances from walls, ceilings, and obstructions.” Per the Committee Scope of the Technical Correlating Committee on Signaling Systems for the Protection of Life and Property project, the original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The TC rejected this comment because it felt existing text contains in Chapter 33 already adequately addresses this subject. However, Chapter 33 only applies to high-rise buildings. Therefore, without this requirement in NFPA 72.6.5.1.2 for a single manual fire alarm box is a performance requirement of this Standard to provide a manual means to activate the system, regardless of the occupancy classification of the protected premise. This is to provide a means to activate the alarm should the system be down for testing or maintenance. This requirement is within the purview of the Signaling Systems for the Protection of Life and Property project. The original proposal was sent to the technical committee as part of the Standards Council directive to all technical committees regarding scoping between NFPA 5000 and other NFPA codes and standards.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN
SUBMITTER: Technical Committee on Building Service and Fire Protection Equipment

COMMENT ON PROPOSAL NO: 5000-1097

RECOMMENDATION: Revise 55.2.3.2.1 as follows:

55.2.3.2.1 Elevator lobby, hoistway, and associated machine room smoke detectors used solely for elevator recall, and heat detectors used solely for elevator power shutdown, shall not be required to activate the building evacuation alarm if the power supply and installation wiring to such detectors are supervised and monitored by the building fire alarm system, and the activation of these detectors results in an audible and visible alarm signal at a constantly attended location.

SUBSTANTIATION: The proposed revision is intended to coordinate with the action taken on Comment 5000-741 (Log #416).

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-741 Log #416 BLD-BSF FINAL ACTION: Accept in Principle (55.2.3.2.2)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-1097

RECOMMENDATION: Revise 55.2.3.2.2 as follows:

55.2.3.2.2* Smoke detectors used solely for closing dampers or heating, ventilating, and air-conditioning system shutdown shall not be required to activate the building evacuation alarm if the power supply and installation wiring to these detectors are monitored by the building fire alarm system, and the activation of these detectors results in an audible and visible alarm signal at a constantly attended location.

SUBSTANTIATION: Based on the committees statement in rejecting the original proposal, it is obvious that it is the intent that HVAC system smoke detectors are supposed to perform the same as elevator associated smoke detectors in 55.2.3.2.1, however, the wording is different. This comment will make the wording consistent.

COMMITTEE MEETING ACTION: Accept in Principle

Revise 55.2.3.2.2 as follows:

55.2.3.2.2* Smoke detectors used solely for closing dampers or heating, ventilating, and air-conditioning system shutdown shall not be required to activate the building evacuation alarm if the power supply and installation wiring to these detectors are monitored by the building fire alarm system, and the activation of these detectors results in an audible and visible alarm signal at a constantly attended location.

SUBSTANTIATION: The committee action replaces the reference to an audible and visible alarm signal with a reference to a supervisory signal to clarify that the Code does not intend the subject detectors to initiate an “alarm” condition. See also Comment 5000-744a (Log #CC302). The proposed revision is intended to coordinate with the action taken on Comment 5000-741 (Log #416).

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-742 Log #471 BLD-BSF FINAL ACTION: Accept in Principle (55.2.3.2.3)

SUBMITTER: Joe McElvaney Phoenix, AZ

COMMENT ON PROPOSAL NO: 5000-1096

RECOMMENDATION: Revise as follows:

55.2.3.2.2 Smoke detectors used solely for closing dampers or heating, ventilating, and air-conditioning system shutdown shall not be required to activate the building evacuation alarm. These detectors shall report to the fire alarm system as supervisory signals only.

SUBSTANTIATION: I am not adding new text. My new added text still does not require activation of the building evacuation alarm but the code does not tell what type of signal it should be. This could be a Trouble, supervisory or even an alarm that does not activate the evacuation system.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Proposal 5000-741 (Log #416).

COMMITTEE STATEMENT: The action on Proposal 5000-741 (Log #416) should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-743 Log #417 BLD-BSF FINAL ACTION: Accept in Principle (55.2.3.2.3)

SUBMITTER: James K. Lathrop, Koffel Assoc., Inc.

COMMENT ON PROPOSAL NO: 5000-1098

RECOMMENDATION: Revise 55.2.3.2.3 as follows:

55.2.3.2.3* Smoke detectors located at doors for the exclusive operation of automatic door release shall not be required to activate the building evacuation alarm if the power supply and installation wiring to these detectors are monitored by the building fire alarm system and the activation of these detectors results in an audible and visible alarm signal at a constantly attended location.

SUBSTANTIATION: Based on the committees statement in rejecting the original proposal, it is obvious that it is the intent that door closing smoke detectors are supposed to perform the same as elevator associated smoke detectors in 55.2.3.2.1, however the wording is different. This comment will make the wording consistent.

COMMITTEE MEETING ACTION: Accept in Principle

See the action on Proposal 5000-743a (Log #CC303).

COMMITTEE STATEMENT: The action on Proposal 5000-743a (Log #CC303) should meet the submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-743a Log #CC303 BLD-BSF FINAL ACTION: Accept (55.2.3.2.3)

TCC Action: The Technical Correlating Committee (TCC) directs that the action be modified to insert the word “Smoke” as the first word in 55.2.3.2.3 so as to read: “55.2.3.2.3 Smoke detectors located...” The recommendation in Comment 5000-743a, which was accepted in principle with a reference to Comment 5000-743a, included the word “smoke” but it was not incorporated into the action on this comment.

SUBMITTER: Technical Committee on Building Service and Fire Protection Equipment

COMMENT ON PROPOSAL NO: 5000-1098

RECOMMENDATION: Revise 55.2.3.2.3 as follows:

55.2.3.2.3* Smoke detectors located at doors for the exclusive operation of automatic door release shall not be required to activate the building evacuation alarm if the power supply and installation wiring to these detectors are monitored by the building fire alarm system, and the activation of these detectors initiates a supervisory signal at a constantly attended location.

SUBSTANTIATION: The proposed revision is intended to coordinate with the action taken on Comment 5000-741 (Log #416).

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-744 Log #194 BLD-BSF FINAL ACTION: Accept in Principle (55.2.3.2.3)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-1106

RECOMMENDATION: Clarify and expand on the action of ACCEPT IN PART. It is unclear as to the extent of what other changes are to be included or rejected in the proposal.

SUBSTANTIATION: See the above recommendation.

COMMITTEE MEETING ACTION: Accept in Principle

Revise the committee meeting action on Proposal 5000-1106 to read as follows:

Accept the proposal as modified by deleting “Section 6.15” from 55.2.3.1. Accept the remainder of the proposal as shown in the submitter’s recommendation.

COMMITTEE STATEMENT: The committee action should meet the intent of the TCC note.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS: Affirmative: 17

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-745 Log #195 BLD-BSF FINAL ACTION: Accept in Principle (55.2.7.3)

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-1109

RECOMMENDATION: Give consideration to consistency and application of the current text as noted in Isman’s, Kapalczynski’s and Larrimer’s explanation of negative so as to make any needed changes.

SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
Maintain the action to reject Proposal 5000-1109.

COMMITTEE STATEMENT: The committee stands on its substantiation for rejection of Proposal 5000-1109. In addition, it notes a similar provision in NFPA 101 has been rejected at the ROC stage for consistency with NFPA 5000. Alternative arrangements to permit the use of “birdcage” sprinkler systems should be evaluated using the provisions for equivalency in Section 1.5.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 17 Negative: 1
BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

EXPLANATION OF NEGATIVE:
SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1121
RECOMMENDATION: Give consideration to the points raised in the substantiation so as to make any needed changes. See related TCC note on Proposal 5000-1109.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle
Reject Proposal 5000-1110.
COMMITTEE STATEMENT: The committee stands on its substantiation for the rejection of Proposal 5000-1109. In addition, it notes a similar provision in NFPA 101 has been rejected at the ROC stage for consistency with NFPA 5000. Alternative arrangements to permit the use of “birdcage” sprinkler systems should be evaluated using the provisions for equivalency in Section 1.5.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 17 Negative: 1
BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

COMMITTEE MEETING ACTION: Accept in Principle
Reject Proposal 5000-1121.
COMMITTEE STATEMENT: The committee concurs with the negative comments on Proposal 5000-1121 submitted by committee members Kapalczynski, Larrimer, and Osman.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 17 Negative: 1
BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

COMMENT ON AFFIRMATIVE:
DONGA: I recommend the following:
55.7.5 Standby Power. When standby power for equipment is provided by an approved self-contained generator set, it shall be set to operate whenever there is a loss of power in the house current. If the generator is located in a building it shall be located in a room having a minimum 1-hour fire resistance-rated separation from the remainder of the building. The generator shall have a fuel supply not less than that which is adequate to operate the equipment for 2 hours. The transfer switch equipment and the emergency panelboard shall be located in a room having a minimum 1 hour fire resistance-rated separation from the remainder of the building.

1.5. It is agreed that there are other means of providing standby power; it is also important to protect a generator, its fuel supply and standby electrical equipment when selected.

5000-749 Log #193 BLD-BSF FINAL ACTION: Accept in Principle (55.7.5 (New))

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1125
RECOMMENDATION: Add new text to read:
55.12.1 A fire department breathing air system shall be provided in all occupancies classified as a high rise building. The design and construction of the breathing air system shall be in accordance with the NFPA.
SUBSTANTIATION: The committee rejected this proposal based on no established design, installation, listing, testing, products or maintenance standards exist for such system. NFPA 99 has most of the required information. by approving this new section to move NFPA 1 to make all the correct information is provided.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The noted design and installation criteria has not been incorporated into NFPA 1.

NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WREN

5000-750 Log #198 BLD-FUN FINAL ACTION: Accept in Principle (A.3.3.3.371.2, A.3.3.3.371.5, A.3.3.3.371.6, and A.3.3.3.371.7)

TCC Action: The Technical Correlating Committee (TCC) notes that the action on this comment has the effect of overriding that by BLD-IND on ROP Proposal 5000-1140 so that the same annex guidance on laboratories will consistently appear when the user consults the annex related to business, educational, health care, and industrial occupations classification.

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL NO: 5000-1136
RECOMMENDATION: Reconsider the decision to accept the additional annex material for Item 4. Action on Proposal 5000-1140 (by BLD-IND) rejected the change. See the committee statement on 5000-1140.
COMMITTEE MEETING ACTION: Accept in Principle
RECOMMENDATION: Retain the acceptance of Proposal 5000-1136.
COMMITTEE STATEMENT: The BLD-FUN committee reconsidered the subject as requested. The proposed annex text is accurate. Occupancy classification of laboratories has been problematic. The annex guidance is helpful. Note that BLD-FUN, BLD-END, BLD-HEA, and BLD-MER all accepted the new annex text; BLD-IND rejected it. Consistency among all affected occupancy chapters is needed.
It is important to recognize the difference between the safety and health goals. Safety is intended to indicate a need for protection against immediate or short-duration hazards, such as a fire, structural failure, or a hazardous chemical spill. Health is intended to indicate a need for protection against longer-term hazards, such as the growth of molds, vibrations, noise, or contamination of air or water at subtoxic levels, that would not cause immediate problems for building occupants but could have long-term effects on the health of occupants.

Many of the aspects of goals could appear under more than one highest-level goal. For example, while protection against excessive moisture has been included under the health goal, it could also relate to the safety goal if moisture were to cause corrosion or rot of building structural elements.

It is important to recognize the difference between the safety and health goals. Safety is intended to indicate a need for protection against immediate or short-duration hazards, such as a fire, structural failure, or a hazardous chemical spill. Health is intended to indicate a need for protection against longer-term hazards, such as the growth of molds, vibrations, noise, or contamination of air or water at subtoxic levels, that would not cause immediate problems for building occupants but could have long-term effects on the health of occupants.

Many of the aspects of goals could appear under more than one highest-level goal. For example, while protection against excessive moisture has been included under the health goal, it could also relate to the safety goal if moisture were to cause corrosion or rot of building structural elements.

SUBSTANTIATION: This comment was developed by a task group of NFPA 1 and NFPA 5000 Fundamentals technical committee members in response to the direction received from the NFPA 5000 TCC to study and refine the issues, and more closely correlate the way NFPA 1 and NFPA 5000 each address the property protection goals of the Codes. The task group consisted of Howard Hopper (Chair), Morgan Hurley, Rick Thornberry, David Klein, and Bob James. A companion comment was also submitted to the NFPA 1 TC.

COMMITTEE MEETING ACTION: Accept in Principle

Revisit A.4.1.1 as follows:
A.4.1.1 These highest level goals are intentionally general in nature. Each includes a broad spectrum of topics as shown in 4.1.3. The property protection goal is not a goal unto itself, as it is also achieved in part as a result of designing to achieve the other stated goals, since the intent of the Code is not solely to address economic loss of private property. Property protection is not included as a highest level goal, as it is contained in most of the other goals. However, the facility/property owner or an insurance representative might also have other goals, that might necessitate more stringent objectives as well as more demanding criteria.

It is important to recognize the difference between the safety and health goals. Safety is intended to indicate a need for protection against immediate or short-duration hazards, such as a fire, structural failure, or a hazardous chemical spill. Health is intended to indicate a need for protection against longer-term hazards, such as the growth of molds, vibrations, noise, or contamination of air or water at subtoxic levels, that would not cause immediate problems for building occupants but could have long-term effects on the health of occupants.

Many of the aspects of goals could appear under more than one highest-level goal. For example, while protection against excessive moisture has been included under the health goal, it could also relate to the safety goal if moisture were to cause corrosion or rot of building structural elements.

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COMMITTEE MEETING ACTION: Accept in Principle

See comment 5000-754.
COMMITTEE STATEMENT: The action should meet the submitter’s intent as this comment is a duplicate of Comment 5000-754.

NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 21
BALLOT NOT RETURNED: 2 ALLEN, WATTS

5000-756 Log #236 BLD-FUN FINAL ACTION: Accept
(A.4.4.1)

SUBMITTER: Eddie Phillips, Southern Regional Fire Code Development Committee

COMMENT ON PROPOSAL NO: 5000-248
RECOMMENDATION: Delete the proposed new annex language in A.4.4.1.

SUBSTANTIATION: 1. There are numerous options for buildings to be constructed in accordance the NFPA 5000 that do not have both active and passive fire protection features.
2. If it is good advice and good practice, then it should be a minimum requirement within the model code and not a recommendation. If this is what the technical committee recommends, why are we not doing it? This creates a situation where the recommended language in the annex conflicts with the technical language in the document.
3. If we are going to start putting recommendations in the annex that are more restrictive than the code language, where will this approach stop? We could recommend that corridors be as wide as possible, buildings be built of type I construction and all buildings have clean agent fire suppression systems without regard to the minimum code text. Clearly, these approaches would also provide safer building for occupants and emergency forces.
4. What is active or passive fire protection? There is no definition to these terms in NFPA 5000.
5. Although this is annex language, this will create a number of unintended questions by the AHJ that will have to be dealt with by the design professional. This language will encourage AHJ’s to require protection above the minimum requirements of the code.
6. In addition to the possibility of this language being constructed as more restrictive by the AHJ, it also may be utilized to justify code compliance where none exist. If a building has both active and passive fire protection, it does not necessarily mean that a building is safer than one that just relies on active or passive fire protection.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 20 Negative: 1
BALLOT NOT RETURNED: 2 ALLEN, WATTS
EXPLANATION OF NEGATIVE: THORNBERY: See my Explanation of Negative on Comment 5000-189.

5000-759 Log #491 BLD-FUN FINAL ACTION: Accept
(A.4.4.1)

SUBMITTER: Robert J. Wills, American Iron and Steel Institute

COMMENT ON PROPOSAL NO: 5000-248
RECOMMENDATION: Delete text:

A.4.4.1 Multiple safeguards should be both passive features as identified in Chapter 8 and active features as identified in Chapter 55 used in combination without placing total reliance on either one.

SUBSTANTIATION: The existing text in 4.4.1 is sufficient and the proposed annex note is misleading and unrealistic. It is misleading since it suggests that every building must include a “passive feature as identified in Chapter 8” and an “active feature identified in Chapter 55”. There are no features in Chapter 8 identified as “passive”, nor are there features in Chapter 55 identified as “active”. The document does not include definitions of “active” or “passive” and the only place in the body of NFPA 5000 where the terms are used is in the performance option noted in 5.8. While I believe I understand the intent of the original proponent, this wording is misleading and vague and a substantial number of code users will find it confusing.

COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 23
BALLOT RESULTS: Affirmative: 20 Negative: 1
BALLOT NOT RETURNED: 2 ALLEN, WATTS
EXPLANATION OF NEGATIVE: THORNBERY: See my Explanation of Negative on Comment 5000-189.

5000-760 Log #536 BLD-FIR FINAL ACTION: Accept in Principle in Part (A.8.9.3.1)


COMMENT ON PROPOSAL NO: 5000-1149
RECOMMENDATION: Delete the new first sentence proposed to be added to this Annex note but retain all of the other proposed revisions.

SUBSTANTIATION: The remaining proposed revisions are basically editorial clarifications that are appropriate regardless of any actions taken on Section 8.9.3.1.

COMMITTEE MEETING ACTION: Accept in Principle in Part
Accept the changes proposed for A.8.9.3.1 as indicated in the proposal 5000-1149 with the following revisions.
A.8.9.3.1 The provisions of 8.9.3 are intended to restrict the interior vertical passage of flame and hot gases from one floor to another at the location where the floor intersects the exterior wall assembly. NFPA 5000 Section 8.9.3 mandates sealing the opening between a floor and an exterior wall assembly to provide the same fire performance as that required for the floor. ASTM E 2307 is a test method for evaluating the performance of perimeter fire barrier systems in current under development. Some laboratories have tested and listed perimeter fire barrier systems essentially in accordance with the proposed ASTM method. The proposed ASTM test method evaluates the performance of perimeter fire barrier systems in terms of heat transfer and fire spread through building “through” the floor/exterior wall intersection. The test method does not assess the ability of perimeter fire barrier systems to prevent the spread of fire from story to story via the exterior.

It is acknowledged that, when a fire grows to full room size (post flashover) in a multistory building, the fire might spread from the story of origin to the story above via the exterior. The phenomenon of perimeter flame spread from window to window is sometimes referred to as a “leapfrog” effect. The leapfrog effect can occur in buildings with non-fire-resistance rated exterior walls, as well as in buildings with fire-rated exterior walls having unglazed window openings and adjacent stories. Fire experience indicates that fire spread beyond the story of origin via the exterior can occur in 15 minutes to 20 minutes or less without fire department intervention.

The leapfrog effect is addressed in 37.1.4 Vertical Separation of Exterior Openings by requiring that windows on adjacent stories be separated vertically by a minimum of 36 in. (915 mm) by a 1-hour fire-resistance rated spandrel or exterior wall assembly or that a 30-in. (760-mm) 1-hour fire-resistance rated flame barrier or “eyebrow” project horizontally from the exterior facade between the windows. These measures are typically applied to buildings greater than three stories. However, actual fire experience has shown that a 36-in. (915-mm) separation is insufficient to prevent fire spread via the exterior from window to window. But the requirements for 1-hour fire-resistance
rated spandrels or eyebrows are traditionally waived in buildings protected by automatic sprinklers and most high-rise buildings are equipped with automatic sprinklers. Experience has shown that a 36-in. (915-mm) spandrel might not be sufficient to prevent fire spread via the exterior from window to window. In summary, fire safety in high-rise buildings is largely dependent on the successful operation of automatic sprinklers. In the rare case where automatic sprinklers fail to control a fire and a fire grows to a large size (post flashover) in a multi-story building and is located in a compartment bounded by an exterior wall that does not have, and the building is equipped with either non fire rated spandrel walls or non-fire rated spandrel roofs, such a fire can cause severe loss of life. Such stair descent devices are recommended for use, regardless of the stair width.

COMMITTEE STATEMENT: With the editorial changes made, the committee believes that the proposed material is appropriate for inclusion in the Guide.

NUMBER ELIGIBLE TO VOTE: 22

BALLOT RESULTS: Affirmative: 21 Abstain: 1

EXPLANATION OF ABSTENTION:

ROSENBAUM: Abstain due to the criteria in Section 3-4 of the Guide elaborating on the annex.

committee believes that the proposed material is appropriate for inclusion in the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-1151

RECOMMENDATION: Give consideration to Shulman’s and Versteeg’s recommendations for design, manufacture, maintenance and operation. This comment provides a safer, more effective evacuation option than carrying an occupied wheelchair or other carried device down the stairs and on the landing. The use of stair descent devices is recommended even if egress stairway width satisfies a requirement for 48 in. (1220 mm) of minimum clear width between stairway handrails or between a handrail and a landing wall.

The design, manufacture, selection, maintenance and operation of such devices should take into account the following recommendations and general guidance information:

1. Minimum carrying capacity of the device should be 300 pounds (136 kg) excluding the maximum permitted stair slope or pitch of 42 degrees or 1.0 unit vertical for 1.1 units horizontal. The rated maximum carrying capacity and maximum stair pitch should be labeled on the device and the device should only be operated within the labeled limits of load and stair slope or pitch.

2. Maximum descent speed, without undue restraint by the operator(s), should be limited by device design to 30 in./sec (760 mm/sec) measured along the slope of the stair.

3. When operated according to manufacturer’s instructions and loaded to its maximum stated capacity, the device should come reliably to a complete stop within a distance of 36 in. (910 mm), measured along the landing or stair slope, or with a slope or pitch not exceeding the device’s maximum stated capability.

4. Unload force should not be required to stop the device or, once stopped, to maintain it in a stationary position on the stairs. On walking surfaces other than stairs, the device should maintain a parked position, without rolling, so that the operator can attend to other activity including assisting the passenger to dismount and proceed. In this case, the operator can attend to other activity including assisting the passenger to dismount and proceed.

5. Operation by any trained, ambulatory adult for any transported person not exceeding 300 pounds in weight.

6. Stable, slip-free contact of the device, with the stair tread nosings, should be maintained on a minimum of three stair nosings of straight-flight stairs.

7. Safe, reasonably comfortable support of the transported person along with sufficient restraints to maintain that person in the device in case of overturning or other disruption to normal operation.

8. Operation of the device should be performed by any trained, ambulatory adult for any transported person not exceeding 300 pounds in weight.

For a device to be counted on for reasonably safe, efficient evacuation of persons otherwise unable to use stairs, especially if there is a relationship between such device provision and the buildings stairway design, some guidelines - if not mandatory standards - should be met for design, manufacture, maintenance and operation of the device. This comment provides a draft of such guidelines which will be considered, and improved upon, by a Task Group of the Means of Egress Technical Committee prior to the TCC’s deliberation on the comment.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Jake Pauls, Jake Pauls Consulting Services

COMMENT ON PROPOSAL NO: 5000-540

RECOMMENDATION: Revise text as follows:

A.12.2.3(2) The stair descent device provides a safer, more effective option to carrying an occupied wheelchair or other chair, lifted off the stair, down a stairway having floor/ceiling or floor/exterior wall intersections protected by perimeter fire barrier systems tested and fire-resistant rated in accordance with the proposed ASTM test method.

COMMITTEE MEETING ACTION: Accept in Principle

SUBMITTER: Technical Correlating Committee on Building Code

COMMENT ON PROPOSAL NO: 5000-308

RECOMMENDATION: Revise text as follows:

A.12.2.3(2) The stair descent device provides a safer, more effective option to carrying an occupied wheelchair or other chair, lifted off the stair, down a stairway having floor/ceiling or floor/exterior wall intersections protected by perimeter fire barrier systems tested and fire-resistant rated in accordance with the proposed ASTM test method.
(5) When descending stairs, the device should be easily operable by one or two trained ambulatory adults. Above average weight or strength should not be required for proper operation. Lifting or carrying of the device, when occupied, should normally not be required for descent.

(6) Unless designed specifically for use on stairs with non-rectangular treads, with operators trained for such use, the device should be operated only on stairways with straight flights having rectangular treads. On straight flights, the device should be designed to have supporting contact with at least two treads, except during the transition between landings and stair flights.

(7) The device should be equipped with straps that securely hold the passenger, including arms and legs, to prevent injury. The length and quantity of straps should be designed to accommodate a range of passenger sizes and weights up to the maximum capacity of the device.

(8) The seat or seat sling should have open sides and be positioned at an appropriate height to allow for transfer with minimal operator assistance. The specific procedure used for a particular transfer should be determined through discussion between the passenger and the operators.

(9) Setup of the device should be described in procedures posted on the device, requiring no other tools or expertise beyond that of available operators, and take no more than 10 seconds from its storage condition to be set up ready for transfer.

(10) In addition to descending stairs, the device should be able to travel across ramped or horizontal surfaces, such as stair landings and hallways, so that it can follow an entire egress route to the exterior of the building.

(11) The device’s seating system should provide adequate support of the passenger to minimize the potential for discomfort or injury or discomfort, recognizing also that people with physical disabilities, who will be the main occupants of the device, are often unusually susceptible to pressure related injuries, especially to the skin while being unable to perceive the warning signs of pain.

(12) Water on the stairways should have no adverse effect on the operation of the device.

(13) If cabinets or storage covers are provided they should include signage or labeling that clearly identifies the device and its use. The device should be readily identifiable without use of special tools or keys.

(14) The building evacuation plan should include the location of the devices, a list of trained operators, a matching list of people with disabilities and other critical information as may be required for the building.

(15) The manufacturer of the device should provide comprehensive training materials with each device. All designated operators should be trained in accordance with these instructions. Evacuation drills that involve actual use of the device by the designated operators, including transfer and transport of building occupants with disabilities, should occur at least quarterly.

(16) The device should be inspected and tested annually in accordance with manufacturer’s recommendations. Preventive maintenance should be performed in accordance to the manufacturer’s recommendations.

(17) Device capabilities differing significantly from those spelled out in the foregoing recommendations (such as carrying capacity, higher normal speed and fall-safe braking systems) should be disclosed by the manufacturer in a manner readily known to operators whose training should take this into account.

(18) Limitations of the device based on stair nosing geometry and nature of stairway covering should be disclosed by the manufacturer in specifications, operating instructions and labeling.

(19) Minimum width requirements, especially at landings where turns occur, should be disclosed by the manufacturer and only devices appropriate to the building’s stairways should be provided in the building.

(20) Carrying handles, if installed on the device, should provide secure gripping surfaces and adequate structural and geometric design to facilitate carrying by two or more operators. Carrying might be necessitated by damaged or otherwise irregular walking surfaces that do not facilitate rolling with the device’s wheels or tracks. Carrying might also be necessitated by the existence of an ascending stair along the means of egress, for example in the exit discharge path.

(21) Unless specialized operator training is undertaken, use of a stairway descent device on stairways with unusually large treads and on escalators should only be attempted if the device is designed for extra long distance between the tread nosings (for example, about 16 in. (405 mm) on escalators as opposed to about 12 in. to 13 in. (305 mm to 330 mm) on typical exit stairways). Such specialized training might entail maintaining a downward force on the device operating handle.

COMMITTEE STATEMENT: The expanded annex is a product of a task group of the Technical Committee on Means of Egress. The task group report was reviewed and approved by the technical committee and appears in the committee action field shown above. The members of the Task Group on Stairway Evacuation Devices are: Joseph Versteeg - Chair, Versteeg Associates, member of the SAF/BLD MEA committee; Peter Axelson, Beneficial Designs, Inc; Norm Cooper, Garaventa Accessibility; David Egen, EVAC+CHAIR Corp; Philip Favro, Philip C. Favro & Associates, member of the SAF/BLD MEA committee; and David Frable, US General Services Administration, member of the SAF/BLD MEA committee.

Edwina Juillet, Fire & Life Safety for People with Disabilities
Marsha Mazz, U.S. Access Board
Jake Pauls, Consulting Services in Building Use & Safety, member of the SAF/BLD MEA committee.

SUBMITTER: Michelle Wigley, Stryker

NUMBER ELIGIBLE TO VOTE: 24
BALLOT RESULTS: Affirmative: 23 Abstain: 1
EXPLANATION OF ABSTENTION: BROWN: NFPA 101 TC’s must also act on similar or identical NFPA 5000 proposals and comments. This action emphasizes the unnecessary redundancy of NFPA 5000 of established NFPA and International Code Council codes and standards and is not supported by the National Association of Home Builders (NAHB). NAHB therefore abstains on this NFPA 5000 action.

5000-762a Log #CC152 BLD-FUN FINAL ACTION: Accept (A.11.5.2.1)

TCC Action: The Technical Correlating Committee (TCC) notes that BLD-MEA, which has primary responsibility for Chapter 11 and its associated annex, was information balloled on the action by BLD-FUN with 21 in agreement and 1 in disagreement. The TCC permits the action by BLD-FUN to stand.

SUBMITTER: Technical Committee on Fundamentals

COMMENT ON PROPOSAL NO: 5000-184
RECOMMENDATION: Add annex text as follows:

A.11.5.2.1 It is not the intent that an area with equipment such as a beverage brewpot, microwave oven, and a toaster be considered a kitchen.

SUBMITTER: John B. Bush, Office of the Maryland State Fire Marshal

CONSENT ON PROPOSAL NO: 5000-684
RECOMMENDATION: Delete existing Annex Note and replace with the following:

While this proposed section has addressed many of the original concerns regarding the installation of these alcohol-based hand sanitizer dispensers, the proposal, as written, contains too many technical errors to be published and enacted as printed.

Much, if not all, of the proposed Annex material speaks more to the justification of this proposal and should not be included as a part of the text to be inserted into the Code. While it may serve as useful background information, there is no need to include the history of clinical studies concerning the effectiveness of hand hygiene facilities, the background and results of fire modeling studies, or recommendations made for infection control. There are also assumptions and indications of acceptable test results; threshold limits, tenability values, engineering judgments, field conditions, and needs for further studies that are stated by persons other than the Technical Committee responsible for the document that should not be included without proper source identification and clarification. The last paragraph of the Annex Note also contains an incomplete sentence. Rather, the Annex should be reserved for material that would be useful in the application of Code.
what is missing from the Annex is guidance for the definition of what qualifies as an alcohol-based hand rub solution. In addition, consideration should be given to add Annex material to further explain the total quantities of solution which would be permitted by this section of the Code; that the total amount of flammable liquids, including the alcohol-based hand rub solutions, should not exceed the maximum amounts permitted by other Codes, including NFPA 1; that dispensers should be permitted to be installed only in corridors having a clear width of at least 72 in.; and that dispensers installed in locations with combustible wall or floor coverings should be permitted only in smoke compartments provided with complete automatic sprinkler protection. Additional wording should be included in the Annex which would indicate that dispensers should be located such that flammables cannot be ignited from any external ignition source with consideration to possible container failure or leakage which may permit liquids or gels to come in contact with wall or floor mounted electrical contacts or other equipment or other potential sources of ignition. This proposal still contains no indication of the total amount of flammable liquids that are permitted to be used or stored within a health care facility, and is somewhat misleading to the Code user by ignoring other amounts of such flammable liquids which may be present for reasons other than sanitizing purposes. The amounts of alcohol-based hand rub solution which would be permitted should be included in, and not in addition to, the overall total of flammable liquids present in any fire area. Currently, there are provisions to limit the installation of containers in locations with carpeted floor coverings, however there is no restriction for the installation of containers on wall surfaces that may be of combustible construction or have combustible surfaces. Such surfaces may include wood paneling, vinyl coverings, or even carpet, and seem to pose as significant, if not more of a hazard due to container leakage or other failure. In addition, the requirement for the restriction of dispensers to sprinklered areas of new health care facilities where carpeted floors are present is not necessary since sprinkler protection is required for the restriction of dispensers to sprinklered areas of new health care facilities where carpeted floors are present is not necessary since sprinkler protection is required throughout all such facilities. What is missing from the Annex is guidance for the definition of what qualifies as an alcohol-based hand rub solution. 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Currently, there are provisions to limit the installation of containers in locations with carpeted floor coverings, however there is no restriction for the installation of containers on wall surfaces that may be of combustible construction or have combustible surfaces. Such surfaces may include wood paneling, vinyl coverings, or even carpet, and seem to pose as significant, if not more of a hazard due to container leakage or other failure. In addition, the requirement for the restriction of dispensers to sprinklered areas of new health care facilities where carpeted floors are present is not necessary since sprinkler protection is required throughout all such facilities. What is missing from the Annex is guidance for the definition of what qualifies as an alcohol-based hand rub solution. In addition, consideration should be given to add Annex material to further explain the total quantities of solution which would be permitted by this section of the Code; that the total amount of flammable liquids, including the alcohol-based hand rub solutions, should not exceed the maximum amounts permitted by other Codes, including NFPA 1; that dispensers should be permitted to be installed only in corridors having a clear width of at least 72 in.; and that dispensers installed in locations with combustible wall or floor coverings should be permitted only in smoke compartments provided with complete automatic sprinkler protection. Additional wording should be included in the Annex which would indicate that dispensers should be located such that flammables cannot be ignited from any external ignition source with consideration to possible container failure or leakage which may permit liquids or gels to come in contact with wall or floor mounted electrical contacts or other equipment or other potential sources of ignition. This proposal still contains no indication of the total amount of flammable liquids that are permitted to be used or stored within a health care facility, and is somewhat misleading to the Code user by ignoring other amounts of such flammable liquids which may be present for reasons other than sanitizing purposes. The amounts of alcohol-based hand rub solution which would be permitted should be included in, and not in addition to, the overall total of flammable liquids present in any fire area. Currently, there are provisions to limit the installation of containers in locations with carpeted floor coverings, however there is no restriction for the installation of containers on wall surfaces that may be of combustible construction or have combustible surfaces. Such surfaces may include wood paneling, vinyl coverings, or even carpet, and seem to pose as significant, if not more of a hazard due to container leakage or other failure. In addition, the requirement for the restriction of dispensers to sprinklered areas of new health care facilities where carpeted floors are present is not necessary since sprinkler protection is required throughout all such facilities.
(1) obstructions created by the installation of such dispensers
(2) location of such dispensers with regard to adjacent combustible materials and potential sources of ignition, especially where containers are mounted on walls of combustible construction
(3) requirements for other fire protection features, including complete automatic sprinkler protection, to be installed throughout the compartment
(4) amount and location of such flammable solutions both in use and in storage, particularly with respect to potential for leakage or failure of the containers.

COMMITTEE STATEMENT: The action does what the submitter requested, but reformats the material editorially.
NUMBER ELIGIBLE TO VOTE: 22
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 7 BROOKS, FISCHBECK, FREIRE, HARRIS, MILLS, STEVENS, TAYLOR

5000-765 Log #203 BLD-MER FINAL ACTION: Accept in Principle (A.28.1.1.1.3)

SUBMITTER: Technical Correlating Committee on Building Code
COMMENT ON PROPOSAL: NO: 5000-1162
RECOMMENDATION: Reconsider the decision to delete all of the text as indicated. Rather, the TCC prefers that the annex be enhanced in a manner as was accomplished in Proposal 5000-1157.
SUBSTANTIATION: See the above recommendation.
COMMITTEE MEETING ACTION: Accept in Principle

REVISE A.28.1.1.1(3) to read as follows: A.28.1.1.1(3) In determining equivalency to life safety requirements for conversions, modernization’s, renovations, or unusual design concepts of business occupancies, the authority having jurisdiction might permit evaluations based on NFPA 101A, Guide on Alternative Approaches to Life Safety, Chapter 7, utilizing the parameters for new construction. The NFPA 101A fire safety evaluation systems (FSES) does not measure equivalency to non-life safety features addressed by this Code.

COMMITTEE STATEMENT: This action meets the intent of the submitter and clarifies the proper application of NFPA 101A with respect to NFPA 5000 for business occupancies.
NUMBER ELIGIBLE TO VOTE: 21
BALLOT RESULTS: Affirmative: 15
BALLOT NOT RETURNED: 6 BOCCI, DODGE, FRANCIS, MARTIN, MOON, TOMES

5000-766 Log #206 BLD-IND FINAL ACTION: Accept (A.34.1.1)

COMMENT ON PROPOSAL: NO: 5000-895
RECOMMENDATION: Amend the last sentence of the first paragraph to read:
The allowable quantities...exceeding the hazardous content limits prescribed by Table 34.7.3.7 for control areas.
SUBSTANTIATION: The revision corrects an error in the sentence.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 20
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-767 Log #261 BLD-IND FINAL ACTION: Accept (A.34.3.7.3.8 (New))

SUBMITTER: John C. Harrington, FM Global
COMMENT ON PROPOSAL: NO: 5000-941
RECOMMENDATION: Add new text to read: A.34.3.7.3.8.4 Sprinkler temperature rating should be at least 50°F (27°C) above the temperature of the environment inside the duct.
SUBSTANTIATION: This clarifies the required temperature of the sprinklers in the ductwork so as to prevent an accidental activation of the sprinkler head.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 29
BALLOT RESULTS: Affirmative: 25
BALLOT NOT RETURNED: 4 DOODY, GARRETT, RAJ, WREN

5000-768 Log #308 BLD-STR FINAL ACTION: Reject (A.37.4.4.1 (New))

COMMENT ON PROPOSAL: NO: 5000-965
RECOMMENDATION: Add new text as follows:
37.4.4.1 The thermal barrier specified in 37.4.4.3(3) shall not be required where ACM meet either of the following conditions:
(1) ACM are installed as part of a balcony or similar architectural appendage or as exterior trim.
(2) ACM are approved for the specific installation, based on tests conducted using the maximum thickness intended for use in accordance with one of the following:
(a) NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth, with the acceptance criteria of 10.3.6.3
(b) UL 1040, Standard for Fire Test of Insulated Wall Construction (c) FM 4880, Approval Standard for Class 1 Insulated Wall or Wall & Roof/ Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems (d) UL 1715, Standard for Safety for Fire Test of Interior Finish Material A 37.4.4.1.4 It should be noted that both NFPA 286 (in 10.3.6.3) and UL 1715 contain smoke obscuration criteria but that UL 1040 and FM 4880 do not.
SUBSTANTIATION: This clarification is intended to resolve the concern expressed by the Technical Correlating Committee of the Building Code regarding the negative by Bill Koffel on proposal 5000-1054. This same comment will be made to 5000-965 and 5000-1054. The Building Code contains references to NFPA 286 in 3 locations (other than Chapters 3 and 10): 37.4.4.1.4.1, 48.3.3.2 and 48.4.4.1.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The annex note does not add pertinent information to the enforcement of this code.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 21 Abstain: 1
BALLOT NOT RETURNED: 5 DIGIOVANNI, GILLENGERTEN, NOVAK, ROSSBERG, WREN
EXPLANATION OF ABSTENTION: JONES: See my Explanation of Abstention on Comment 5000-4.
COMMENT ON AFFIRMATIVE
NACHAEMAN: See my Affirmative with Comment on 5000-4.

5000-769 Log #296 BLD-MAT FINAL ACTION: Reject (A.48.3.3.2 and A.48.4.4.1 (New))

COMMENT ON PROPOSAL: NO: 5000-1054
RECOMMENDATION: Add new text as follows:
48.3.3.2 The thermal barrier shall remain in place for 15 minutes, based on one of the following tests:
(1) UL 1715, Standard for Safety for Fire Test of Interior Finish Material (2) FM 4880, Approval Standard for Class 1 Insulated Wall or Wall and Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems (3) UL 1040, Standard for Fire Test of Insulated Wall Construction (4) NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth, with the acceptance criteria of 10.3.6.3
48.4.4.1 The requirements of 48.3.3.3 through 48.4.3.3 shall be permitted to be replaced by special testing, and the approval of foam plastic shall be based on large-scale tests such as, but not limited to, the following:
(1) UL 1715, Standard for Safety for Fire Test of Interior Finish Material (2) UL 1040, Standard for Fire Test of Insulated Wall Construction (3) FM 4880, Approval Standard for Class 1 Insulated Wall or Wall and Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems (4) NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth, with the acceptance criteria of 10.3.6.3
A.48.4.3.2 It should be noted that both NFPA 286 (in 10.3.6.3) and UL 1715 contain smoke obscuration criteria but that UL 1040 and FM 4880 do not.
A.48.4.4.1 It should be noted that both NFPA 286 (in 10.3.6.3) and UL 1715 contain smoke obscuration criteria but that UL 1040 and FM 4880 do not.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The Technical Committee chose to reject this comment. The annex note does not add pertinent information to the enforcement of this code.
NUMBER ELIGIBLE TO VOTE: 19
BALLOT RESULTS: Affirmative: 17
BALLOT NOT RETURNED: 2 HOGAN, VEITAS
COMMITTEE STATEMENT:
No action.

BALLOT NOT RETURNED:
allow design or trade-offs based on the installation of sprinklers.

NICKSON: Many of the items considered in the cost effective justification
EXPLANATION OF NEGATIVE:
Therefore, I believe it should be deleted.

It appears to me that this annex note does not help identify that reason.

While I was in favor of identifying why the manual pull station was required,
to initiate an alarm signal, then the occupancy chapters of NFPA 5000 should
precede automatic sprinkler or detection activation, then it is the responsibility
of the occupancy chapter to mandate manual stations.

The second sentence (Where the fire alarm system is connected to a
monitoring facility, the manual fire alarm box required by 55.2.2.1.5 will be connected to a separate circuit that is not placed "on test" when the detection or sprinkler system is placed "on test". The manual fire alarm box should be located in an area that is accessible to occupants of the building, not located in a locked location.

SUBSTANTIATION:
The proposed annex note is intended to clarify the
intent of the fire alarm box required by 55.2.2.1.5.

COMMITTEE MEETING ACTION:
Accept

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS:
Affirmative: 16 Negative: 1

BALLOT NOT RETURNED: 3 BROWN, MCDANIEL, WRENN

EXPLANATION OF NEGATIVE:
LARRIMER: See my negative comment on 5000-739.

If the manual pull station is required, the occupancy chapter should establish the requirement, not Chapter 55. If the fire detection system or water flow devices are out of service due to maintenance or testing, the manual pull station will also be out of service. If it is thought that human discovery of a fire will precede automatic sprinkler or detection activation, then it is the responsibility of the occupancy chapter to mandate manual stations.

The second sentence (Where the fire alarm system is connected to a monitoring facility, the manual fire alarm box required by 55.2.2.1.5 should be connected to a separate circuit that is not placed "on test" when the detection or sprinkler system is placed "on test".) doesn’t appear to be very practical. My experience is that when you are testing flow switches or detection devices, you disconnect the system from the monitoring station. Adding this recommended design option may require a new discussion of the need to test in this manner.

The last sentence identifies that it should be "located in an area accessible to occupants of the building not located in a locked location." This is clearly a note that would imply that the manual fire alarm box is there for the use of the occupants of the building. Again, if the occupants need a manual fire alarm box to initiate an alarm signal, then the occupancy chapters of NFPA 5000 should (and do) require this to be the case.

While I was in favor of identifying why the manual pull station was required, it appears to me that this annex note does not help identify that reason. Therefore, I believe it should be deleted.

COMMITTEE STATEMENT:
No action is necessary based on the action on Comment 5000-499 which adds a mandatory requirement for automatic sprinkler systems in one- and two-family dwellings.

NUMBER ELIGIBLE TO VOTE: 25

BALLOT RESULTS:
Affirmative: 20 Negative: 2

BALLOT NOT RETURNED: 3 BONISCH, CONVERY, ONEISOM

EXPLANATION OF NEGATIVE:
BROWN: No proved cost-benefit over current fire-safety requirements.

NICKSON: Many of the items considered in the cost effective justification are issues that cannot and are not addressed or covered in NFPA 5000. These issues have to be addressed at the local level with decisions at the local level to allow design or trade-offs based on the installation of sprinklers.

TCC Action: The Technical Correlating Committee (TCC) directs that this action of "REJECT" be retained, but that the committee statement should have referenced comment 5000-499.


COMMENT ON PROPOSAL NO: 5000-1169

RECOMMENDATION:
Reconsider the original proposal.

SUBSTANTIATION:
The justification for this proposal is clear, detailed and overwhelming. A "reject" based on scope is not appropriate for an issue with such a dramatic life safety impact.

COMMITTEE MEETING ACTION:
Reject

COMMITTEE STATEMENT:
The TCC submitted a comment asking BLD-SAFL-RES to take an action on this subject. See committee action 5000-770.

NUMBER ELIGIBLE TO VOTE: 20

BALLOT RESULTS:
Affirmative: 14

BALLOT NOT RETURNED: 6 AMBREFE, HAYS, MCGUIRE, RONDINELLI, SIEGEL, VAN BECELAERE

TCC Action: The Technical Correlating Committee (TCC) directs that this action of "REJECT" be retained, but that the committee statement should have referenced comment 5000-499.

SUBMITTER: Bob Eugene, Underwriters Laboratories Inc.

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION:
Revise text to read as follows:
X.2.3.2.21 Ceiling Plenum Tested Assembly, Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested or investigated and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform with the design of the fire resistance-rated assembly, as tested in accordance with NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials or ANSI/UL 263, Standard Fire Tests of Building Construction and Materials.

SUBSTANTIATION:
This adds the reference to the equivalent ANSI standard in accordance with the NFPA Manual of Style and the TCC direction on Proposal 101-5.

COMMITTEE MEETING ACTION:
Accept

COMMITTEE STATEMENT:
The Technical Committee supports the inclusion of this text. Please note that the full title and ANSI designation will be published only in the annex listing the reference standards for Annex X and not in the text, per the NFPA Manual of Style. Also, reference to this text was included in the Annex X Preprint in the ROP, Section X.2.3.2.20.

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS:
Affirmative: 21

BALLOT NOT RETURNED: 2 BARBARO, FOSTER
5000-774 Log #291 BLD-BLC  
**FINAL ACTION:** Accept (Annex X)

**SUBMITTER:** Bob Eugene, Underwriters Laboratories Inc.

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Revise as follows:

X.5.2.2.2 Fire doors in EFC barriers shall limit temperature rise to 450°F (250°C) when tested in accordance with NFPA 252 or ANSIUL 10C.

**SUBSTANTIATION:** This adds the reference to the equivalent ANSI standard in accordance with the NFPA Manual of Style and the TCC direction on proposal 101-5, ANSIUL 10C, Standard for Positive Pressure Fire Tests of Door Assemblies, 1998 Revised 2001 is a recognized standard that should also be referenced.

**COMMITTEE MEETING ACTION:** Accept

**COMMITTEE STATEMENT:** Please note that the ANSI designation will not appear in body of document, but in the annex listing the reference standards for Annex X.

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-775 Log #CC53 BLD-BLC  
**FINAL ACTION:** Accept (Table X.3.2.1)

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Change Opening Protectives column references as follows:

| Table | X.3.3.5(a), Table X.3.3.5(b), and Table X.3.3.5(b) |

**SUBSTANTIATION:** This corrects editorial mistakes in Table X.3.2.1 of the Annex X Preprint in the ROP.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-776 Log #CC54 BLD-BLC  
**FINAL ACTION:** Accept (X.4.1)

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Modify as follows:

Table X.4.1 General. The height of buildings and size of EF compartments, based on their intended occupancy and type of construction classification, shall be in accordance with Section X.4, X.6 or X.7.

**SUBSTANTIATION:** This clarifies where special occupancy related height and area requirements can be found in Annex X. Please note, the underlying language is from the Annex X Preprint in the ROP and not Proposal 5000-301.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-777 Log #CC61 BLD-BLC  
**FINAL ACTION:** Accept (X.4.2.1.2)

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Modify as follows:

X.4.2.1.2 The maximum EF compartment area values in Table X.4.2.1(b) shall only be applied where the EF compartment is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

**SUBSTANTIATION:** This modification clarifies that the area value may be used for any compartment which is sprinklered.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-778 Log #CC71O BLD-IND  
**FINAL ACTION:** Accept (Table X.4.2.1(a) and Table X.4.2.1(b))

**SUBMITTER:** Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** In Table X.4.2.1(a) and Table X.4.2.1(b) as modified in comment 5000-782, revise Note 1 and Note 3 respectively to read as follows:

Values for high hazard contents below MAQ per control area in accordance with Chapter 34, not requiring Protection Level 1 through 5.

**SUBSTANTIATION:** Editorial change prompted by action taken by BLD-BLC on comment 5000-782.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 29

**BALLOT RESULTS:** Affirmative: 25

**BALLOT NOT RETURNED:** 4 DOODY, GARRETT, RAJ, WREN

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5000-779 Log #CC55 BLD-BLC  
**FINAL ACTION:** Accept (Table X.4.2.1(a), Table X.4.2.1(b))

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Modify column heading in Table X.4.2.1(a) and Table X.4.2.1(b) as follows:

Fire Resist ance Rating

**SUBSTANTIATION:** This corrects an editorial mistake in the tables.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-780 Log #CC57 BLD-BLC  
**FINAL ACTION:** Accept (Table X.4.2.1(a), Table X.4.2.1(b), Table X.4.2.2(a) and Table X.4.2.2(b))

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Modify the row on Assembly, Outdoor’s Hourly Separation in Table X.4.2.1(a) and Table X.4.2.1(b) to:

Add the following footnote to Table X.4.2.1(a) and Table X.4.2.1(b): Not applicable.

**SUBSTANTIATION:** This corrects an editorial mistake in the tables.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-781 Log #CC58 BLD-BLC  
**FINAL ACTION:** Accept (Table X.4.2.1(a), Table X.4.2.1(b), Table X.4.2.2(a) and Table X.4.2.2(b))

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Delete “Assisted Living” row in Table X.4.2.1(a), Table X.4.2.1(b), Table X.4.2.2(a) and Table X.4.2.2(b); Assembly ≤ 300. Symbol should be “less than or equal to”.

**SUBSTANTIATION:** This occupied was not developed as a separate occupancy class and should not be shown in the tables.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER

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5000-782 Log #CC59 BLD-BLC  
**FINAL ACTION:** Accept (Table X.4.2.1(a), Table X.4.2.1(b), Table X.4.2.2(a) and Table X.4.2.2(b))

**SUBMITTER:** Technical Committee on Building Construction

**COMMENT ON PROPOSAL NO:** 5000-301

**RECOMMENDATION:** Add high hazard protection level entries for Table X.4.2.1(a), Table X.4.2.1(b), Table X.4.2.2(a) and Table X.4.2.2(b) as shown on the following pages.

**SUBSTANTIATION:** These rows were added for further coordination with Chapter 34.

**COMMITTEE MEETING ACTION:** Accept

**NUMBER ELIGIBLE TO VOTE:** 23

**BALLOT RESULTS:** Affirmative: 21

**BALLOT NOT RETURNED:** 2 BARBADORO, FOSTER
### Table X.4.2.1(a) Area and Separation Requirements for Nonsprinklered EF Compartments

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>Max EF Compartment Area (ft²/m²)</th>
<th>Fire Resistant Rating</th>
<th>Hourly Separation</th>
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<tbody>
<tr>
<td>Assembly &gt; 1000</td>
<td>12,000 (1116)</td>
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<td>Assembly &gt; 300</td>
<td>12,000 (1116)</td>
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<tr>
<td>Assembly &lt; 300</td>
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<td>Assembly, outdoor</td>
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<td>Educational</td>
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<td>Day care</td>
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<tr>
<td>Day care homes</td>
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<td>Health care</td>
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<td>Ambulatory health care</td>
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<td>One- and two-family</td>
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NL: Not limited. NP: Not permitted.

**Note:**

1. Values are for high hazard contents below MAQ per control area in accordance with Chapter 34.
### Table X.4.2.1(b) Area and Separation Requirements for Sprinklered EF Compartments

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<th>Occupancy Class</th>
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<th>Fire Resistant Rating</th>
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**Note:**
1. Maximum 1 compartment.
2. Use value for appropriate occupancy class. For Industrial or Storage Occupancies, use values for ordinary hazards.
3. Values are for high hazard contents below MAQ per control area in accordance with Chapter 34.
### Table X.4.2.2(a) Allowable Height in Feet and Stories — Nonsprinklered

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<tr>
<th>Occupancy Class</th>
<th>I (442)</th>
<th>II (332)</th>
<th>II (222)</th>
<th>II (111)</th>
<th>II (000)</th>
<th>III (211)</th>
<th>III (200)</th>
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NL: Not limited. NP: Not permitted.
Table X.4.2.2(b) Allowable Height in Feet and Stories — Sprinklered

<table>
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<th>Occupancy Class</th>
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<th>II (222)</th>
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Protection Levels:

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</tr>
</tbody>
</table>

NL: Not limited. NP: Not permitted.

Note:
1. Use value for appropriate occupancy class. For Industrial or Storage Occupancies, use values for ordinary hazard.
2. See 34.3.4.4.1.
3. See 34.3.5.4.1.
SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Add the following annex note to Table X.4.2.1(a): Annex Note to Table X.4.2.1(a). Although the table indicates that nonsprinklered compartments are not permitted for Healthcare and Large Residential Board and Care, the table does provide a minimum fire resistance rating for the EFC barrier. This fire resistance rating could be used where the compartment on either side of the EFC barrier is not sprinklered. An example of where the 2 hour fire resistance rating would apply is an addition being made to an existing nonsprinklered building.

SUBSTANTIATION: This new annex note explains why there is a fire resistance rating designated for Healthcare and Large Residential Board and Care even though nonsprinklered compartments are not permitted for either occupancy.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify Section X.4.2.3 as follows:

X.4.2.3.2 The fire resistance rating requirements in Table X.4.2.1(b) shall only be applied where the EF compartment on each side of the EFC barrier is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

SUBSTANTIATION: This modification clarifies that both sides of the barrier must be sprinklered in order to use the fire rating permitted in Table X.4.2.1(b).

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify Section X.4.2.5 as follows:

X.4.2.5.1 General. In other than buildings requiring Protection Level 1, the maximum number of EF compartments shall be limited in accordance with Table X.4.2.5.1, except as permitted in X.4.2.5.2.

SUBSTANTIATION: This modification coordinates with Chapter 7 requirements.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify Section X.4.2.5 as follows:

X.4.2.5.1 General. In other than buildings requiring Protection Level 1, the maximum number of EF compartments shall be limited in accordance with Table X.4.2.5.1, except as permitted in X.4.2.5.2.

SUBSTANTIATION: This modification coordinates with Chapter 7 requirements.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify Section X.4.2.5 as follows:

X.4.2.5.1 General. In other than buildings requiring Protection Level 1, the maximum number of EF compartments shall be limited in accordance with Table X.4.2.5.1, except as permitted in X.4.2.5.2.

SUBSTANTIATION: This modification coordinates with Chapter 7 requirements.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify Section X.4.2.5 as follows:

X.4.2.5.1 General. In other than buildings requiring Protection Level 1, the maximum number of EF compartments shall be limited in accordance with Table X.4.2.5.1, except as permitted in X.4.2.5.2.

SUBSTANTIATION: This modification coordinates with Chapter 7 requirements.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
(1) Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building.

(2) The building shall be equipped throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

(3) The building shall be surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.3.8 Sprinklered One-Story Motion Picture Theaters. The area of a EF compartment shall not be limited in one-story motion picture theaters in buildings containing a single EF compartment of Type II construction shall not be limited in accordance with NFPA 13 and surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.3.9 Sprinklered One-Story Assembly Building. The area of a EF compartment shall not be limited in a one-story assembly building containing a single EF compartment used as an auditorium, church, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool, or tennis court of Type II construction shall not be limited when all the following criteria are met:

(1) The building shall not have a theatrical stage other than a raised platform.

(2) The building shall be equipped with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

(3) The assembly floor shall be located at, or within 21 in. (533 mm) of the level of the exterior exit discharge accessible from the main entrance/exit.

(4) All exits and exit discharges shall be level or provided with ramps to a public way.

(5) The building shall be surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

SUBSTANTIATION: These changes better clarify the intent of the requirements. Please note that the section numbering is based upon the Annex X shall be in the ROP and not Proposal 5000-301.

COMMITTEE MEETING ACTION: Accept

SUBMITTER: Technical Committee on Building Construction

COMMENT ON PROPOSAL NO: 5000-301

RECOMMENDATION: Modify as follows:

X.6 Special EF Compartment Building Height Requirements.

X.6.3 Rack Storage Buildings EF Compartments. In other than buildings EF compartments housing hazardous materials requiring Protection Level 1, 2, 3, 4, or 5, one story buildings and structures used for rack storage shall not be limited in height in feet for EF compartments having one story and used for rack storage shall not be limited in height provided that all of the following requirements are met:

(1) The building shall be of Type II construction.

(2) The building shall not be open to the public.

(3) The building shall conform to the requirements of X.4.3.3.3.

SUBSTANTIATION: This modification coordinates with Chapter 7 requirements.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 23

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER

5000-790 Log #CC68 BLD-BLC

FINAL ACTION: Accept (X.6)

X.6.7 Enclosed Parking Structures with Occupancies Above. A basement or first story above grade plane of a building in which the height and area of EF compartments shall be considered as a separate and distinct building EF compartment for the purpose of determining the location of the occupancies and type of construction, provided all of the following conditions are met:

(1) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(2) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

X.6.7.6 Enclosed Parking Structures with Occupancies Above. A basement or first story above grade plane of a building in which the height and area of EF compartments shall be considered as a separate and distinct building EF compartment for the purpose of determining the location of the occupancies and type of construction, provided all of the following conditions are met:

(1) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(2) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(3) The maximum building EF compartment height in feet shall not exceed the limits set forth in Table X.4.2.2(a) or Table X.4.2.2(b) for the least restrictive type of construction involved.

X.6.7.8 Eight Hour Parking Structure with Open Parking Structure Above. An enclosed parking structure located in the basement or first story below an open parking structure used for the parking and storage of private motor vehicles, unless otherwise permitted by the following:

(a) The horizontal assembly shall be a minimum 1-hour fire resistance rating.

(b) The horizontal assembly shall be a minimum 1-hour fire resistance rating.

(3) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(4) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(5) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(6) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(7) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.

(8) The building shall have an assembly area with an assembly floor that have a fire resistance rating at least equal to the fire resistance rating of the building above with a horizontal assembly having a minimum 1-hour fire resistance rating.
(3) The floor assembly between the enclosed parking structure and open parking structure shall be protected as required for the floor assembly of the enclosed parking structure.

(4) Openings in the floor assembly between the enclosed parking structure and open parking structure, except exit openings, shall not be required to be protected.

(5) The enclosed parking structure shall be used for the parking or storage of private motor vehicles, but shall be permitted to contain an office, a waiting room, and a toilet room having a total area of not more than 1000 ft² (93 m²) and mechanical equipment rooms incidental to the operation of the building.

X.67.8 Open Parking Structure Beneath Occupancies Other than Assembly and Health Care, Detention and Correctional, and Ambulatory Health Care Occupancies.

X.67.8.1 Where a maximum one-story above-grade parking structure, enclosed or open or a combination thereof, of Type I or Type II (222) construction or open Type IV construction, with grade entrance, is provided under occupancies other than assembly and health care, detention and correctional, and ambulatory health care occupancies, the number of stories to be used in determining the minimum type of construction shall be permitted to be measured from the floor above such a parking area.

X.67.8.2 The floor assembly between the parking structure and occupancies other than assembly and health care, detention and correctional, and ambulatory health care occupancies above shall comply with the following:

1. The floor assembly shall be of type of construction required for the parking structure.

2. The floor assembly shall provide a fire resistance rating not less than the mixed occupancy separation required in Table 6.2.4.1.

X.67.9 Open Parking Structure Beneath Other Occupancies.

X.67.9.1 Limitations.

X.67.9.1.1 Open parking structures constructed under other occupancies shall not exceed the height and area limitations permitted under 30.8.1.6.

X.67.9.1.2 The height of the building compartment above the open parking structure shall not exceed the limitations in Table X.4.2.2(a) or Table X.4.2.2(b) for the upper occupancy.

X.67.9.1.3 The height, in both feet and stories, of a building compartment above the open parking structure shall be measured from grade and shall include both the open parking structure and the portion of the building compartment above the parking structure.

X.67.9.2 Fire Separation. Fire separation assemblies between the parking occupancy and the upper occupancy shall correspond to the required fire resistance rating prescribed in Table 6.2.4.1 for the uses involved.

X.67.9.3 Type of Construction. The type of construction shall apply to each building compartment individually, except that structural members, including main bracing within the open parking structure, that are necessary to support the upper occupancy shall be provided with the more restrictive fire resistance ratings of the use groups involved, as shown in Table X.2.1.1.

X.67.9.4 Means of Egress. Means of egress for the upper occupancy shall conform to Chapter 11 and shall be separated from the parking occupancy by fire barriers having at least a 2-hour fire resistance rating, with self-closing doors in accordance with 8.7.2.

SUBSTANTIATION: These changes better clarify the intent of the requirements. Also, several sections have been relocated to Section X.6, which is a more appropriate place for the requirements. Please note, section numbering and underlying language is based upon the Annex X Preprint in the ROP and not Proposal 5000-301.

COMMITTEE MEETING ACTION: Accept

BALLOT RESULTS: Affirmative: 21

BALLOT NOT RETURNED: 2 BARBADORO, FOSTER
Chapter 34  High Hazard Contents

34.1 General Requirements.

34.1.1* Applicability.

34.1.1.1 Occupancies containing high hazard contents shall comply with this chapter in addition to other applicable requirements of this Code.

34.1.1.2 Buildings, and portions thereof, containing high hazard contents limited to the following shall not be required to comply with this chapter:

(1) Flammable and combustible liquids associated with application of flammable finishes and complying with NFPA 33, Standard for Spray Application Using Flammable or Combustible Materials, and NFPA 34, Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids

(2) Flammable and combustible liquids associated with wholesale and retail sales and storage in mercantile occupancies and complying with NFPA 30, Flammable and Combustible Liquids Code

(3) Class III-A and Class III-B combustible liquid solvents in closed systems employing listed cleaning equipment complying with NFPA 32, Standard for Drycleaning Plants

(4) Refrigerants and refrigerant oil contained within closed-cycle refrigeration systems complying with NFPA 1, Uniform Fire Code, and the Uniform Mechanical Code, as referenced in Chapter 50

(5) Flammable and combustible liquid beverages in liquor stores and distributors without bulk storage

(6) High hazard contents stored or used in farm buildings or similar occupancies for on-premise agricultural use

(7) Corrosive materials in stationary batteries utilized for facility emergency power, uninterrupted power supply, or similar purposes, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with NFPA 1

(8) Corrosive materials displayed in original packaging in mercantile occupancies and intended for personal or household use or as building materials

(9) Aerosol products in storage or mercantile occupancies and complying with NFPA 30B, Code for the Manufacture and Storage of Aerosol Products

(10) Flammable and combustible liquids storage tank buildings meeting the requirements of 2.3.4 of NFPA 30

(11) Flammable and combustible liquids storage tank vaults meeting the requirements of 2.2.7 of NFPA 30

(12) Flammable and combustible liquids process buildings meeting the requirements of 5.3 of NFPA 30


(14) Consumer fireworks, 1.4G in mercantile occupancies complying with NFPA 1124, Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles.

34.1.2 Material Classification.

34.1.2.1 General. Hazardous materials shall be classified in accordance with 6.3.2.4 and the definitions in Chapter 3.

34.1.2.2 Multiple Hazards. Buildings, and portions thereof, containing high hazard contents that are classified in more than one hazard level, as set forth in 6.3.2.4, shall conform to the code requirements for each of the applicable protection levels specified in Section 34.3.

34.1.3 Quantity Limits.

34.1.3.1 General. Maximum allowable quantities of hazardous materials per control area shall be as specified in Table 34.1.3.1, except as modified by 34.1.3.2 and 34.1.3.3.

Table 34.1.3.1 Maximum Allowable Quantity of Hazardous Materials per Control Area

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>High Hazard Contents Level</th>
<th>Storage&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Use—Closed Systems&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Use—Open Systems&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Solid Pounds (ft³)</td>
<td>Liquid Gallons (lb)</td>
<td>Gas (ft³)</td>
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<tr>
<td>Physical Hazard Materials</td>
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<tr>
<td>Combustible liquid&lt;sup&gt;c&lt;/sup&gt;&lt;sup&gt;d&lt;/sup&gt;&lt;sup&gt;e&lt;/sup&gt;&lt;sup&gt;f&lt;/sup&gt; [ROC 623]</td>
<td>II IIA IIB</td>
<td>2 or 3 2 or 3 NA</td>
<td>NA</td>
<td>120&lt;sup&gt;f&lt;/sup&gt; 330&lt;sup&gt;f&lt;/sup&gt; 13,200&lt;sup&gt;e&lt;/sup&gt; [ROC 621a]</td>
<td>NA</td>
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<td></td>
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<tr>
<td>Consumer fireworks [ROC 615]</td>
<td>1.4G</td>
<td>3</td>
<td>125&lt;sup&gt;k&lt;/sup&gt;</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Cryogenic liquid</td>
<td>Flammable Oxidizing</td>
<td>2 3</td>
<td>NA 45&lt;sup&gt;f&lt;/sup&gt;</td>
<td>NA 45&lt;sup&gt;f&lt;/sup&gt;</td>
<td>NA 45&lt;sup&gt;f&lt;/sup&gt;</td>
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<td>Explosives</td>
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<td>1&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1/4&lt;sup&gt;h&lt;/sup&gt;</td>
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</table>

2006 Edition
### Table 34.1.3.1  Continued

<table>
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<tr>
<th>Material</th>
<th>Class</th>
<th>High Hazard Contents Level</th>
<th>Storage&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Use—Closed Systems&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Use—Open Systems&lt;sup&gt;b&lt;/sup&gt;</th>
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</thead>
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<tr>
<td></td>
<td>Solid Pounds (ft&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Liquid Gallons (lb)</td>
<td>Gas&lt;sup&gt;b&lt;/sup&gt; (ft&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Solid Pounds (ft&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Liquid Gallons (lb)</td>
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<td>Flammable gas&lt;sup&gt;q&lt;/sup&gt;</td>
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<td>Liquefied</td>
<td>2</td>
<td>NA</td>
<td>30&lt;sup&gt;e,f&lt;/sup&gt;</td>
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<td>Liquefied Petroleum (LP)</td>
<td>2</td>
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<td>300&lt;sup&gt;e&lt;/sup&gt;p</td>
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<td>Flammable liquid&lt;sup&gt;c,q,r,t&lt;/sup&gt;</td>
<td>IA</td>
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<td>IB &amp; IC Combination (IA, IB, IC)</td>
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<td>120&lt;sup&gt;f&lt;/sup&gt;</td>
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<td>Organic peroxide</td>
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<td>4</td>
<td>1</td>
<td>1&lt;sup&gt;e,h&lt;/sup&gt;</td>
<td>(1)&lt;sup&gt;e,h&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&lt;sup&gt;k&lt;/sup&gt;</td>
<td>1</td>
<td>10&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(10)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>250&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(250)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>NA</td>
<td>4,000&lt;sup&gt;e&lt;/sup&gt;</td>
<td>(4,000)&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Oxidizing gas</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>1,500&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NA</td>
<td>15&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>NA</td>
<td>15&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Pyrophoric</td>
<td>2</td>
<td>4&lt;sup&gt;e,h&lt;/sup&gt;</td>
<td>(4)&lt;sup&gt;e,h&lt;/sup&gt;</td>
<td>50&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Unstable (reactive)</td>
<td>4</td>
<td>1</td>
<td>1&lt;sup&gt;e,h&lt;/sup&gt;</td>
<td>(1)&lt;sup&gt;e,h&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&lt;sup&gt;h&lt;/sup&gt;</td>
<td>1</td>
<td>5&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(5)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>50&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(50)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>NA</td>
<td>NA</td>
<td>50&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Water-reactive</td>
<td>3</td>
<td>2</td>
<td>5&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(5)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>50&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(50)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>NA</td>
<td>NA</td>
<td>50&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>Health Hazard Materials</td>
<td>Corrosive</td>
<td>NA</td>
<td>4</td>
<td>5,000&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>500&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Highly toxic</td>
<td>NA</td>
<td>4</td>
<td>10&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(10)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Toxic</td>
<td>NA</td>
<td>4</td>
<td>500&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>(500)&lt;sup&gt;e,f&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Notes:
1. For SI units, 1 lb = 0.454 kg; 1 gal = 3.785 L; 1 ft<sup>3</sup> = 0.0283 m<sup>3</sup>.
2. NA = not applicable.
3. NL = not limited.
4. See 34.1.3.2 for exceptions to tabular amounts. For use of control areas, see 34.2.4. Table values in parentheses correspond to the unit name in parentheses at the top of the column.
5. *The aggregate quantity in use and storage is not permitted to exceed the quantity listed for storage. In addition, quantities in specific occupancies are not permitted to exceed the limits in 34.1.3.2.*
b Measured at 70°F (21°C) and 14.7 psi (30 kPa).

c Inside a building, the maximum capacity of a combustible liquid storage system that is connected to a fuel-oil piping system is permitted to be 660 gal, provided that such system conforms to NFPA 31.

d Unless the actual weight of the pyrotechnic composition of the consumer fireworks, 1.4G, is known, 25 percent of the gross weight of the fireworks, including packaging, is permitted to be used to determine the weight of the fireworks for the purpose of this table.

e Quantities are permitted to be increased 100 percent where stored in approved cabinets, gas cabinets, exhausted enclosures, explosives magazines, or safety cans, as appropriate for the material stored, in accordance with NFPA 1, Fire Prevention Code. Where footnote f also applies, the increase for both footnotes is permitted to be applied accumulatively.

f Maximum quantities are permitted to be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with NFPA 13. Where footnote e also applies, the increase for both footnotes is permitted to be applied accumulatively.

h Permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with NFPA 13.

i Maximum quantities of black powder, smokeless propellant, and small arms primers stored or displayed in mercantile occupancies or stored in one- or two-family dwellings shall be permitted to exceed the amount specified by this table when such storage complies with the requirements of NFPA 495, Chapter 13.

j The permitted quantities are not limited in a building equipped throughout with an automatic sprinkler system in accordance with NFPA 13.

k Permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with NFPA 13.

l Containing not more than the maximum allowable quantity per control area of Class I-A, Class I-B, or Class I-C flammable liquids.

m A single cylinder containing 150 lb or less of anhydrous ammonia in a single control area in a nonsprinklered building is considered to be the maximum allowable quantity. Two cylinders, each containing 150 lb or less, in a single control area is considered to be the maximum allowable quantity, provided that the building is equipped throughout with an automatic sprinkler system in accordance with NFPA 13.

n Allowed only where stored in approved, exhausted gas cabinets or exhausted enclosures, as specified in NFPA 1.

o Additional storage locations shall be separated by a minimum of 300 ft.

p In Mercantile Occupancies, storage of LP-gas is limited to a maximum of 200 lb, in nominal 1 lb LP-gas containers.

q Flammable and combustible liquids and flammable gases in the fuel tanks of mobile equipment or vehicles shall be permitted to exceed the MAQ where the equipment is stored and operated in accordance with the fire code. [ROC 617]

r In Storage, Low and Ordinary Hazard Occupancies, the storage of Class IA flammable liquids shall not be permitted and the combination storage of Class IB and Class IC flammable liquids shall be limited to a maximum quantity of 660 gallons when they are stored in accordance with All the requirements in NFPA 30 for General-Purpose Warehouses.

s In Storage, Low and Ordinary Hazard Occupancies, the storage of Class II combustible liquids shall be limited to a maximum quantity of 1,375 gallons, Class IIIA combustible liquids shall be limited to a maximum quantity of 2,750 gallons, and Class IIIB combustible liquids shall be limited to a maximum quantity of 13,750 gallons when they are stored in accordance with all the requirements in NFPA 30 for General-Purpose Warehouses.

t The quantity of fuel in aircraft in hangers shall be in accordance with NFPA 409.

34.1.3.2 Special Occupancy Limits. Maximum allowable quantities of hazardous materials per control areas in Assembly, Ambulatory Health Care, Business, Educational, Day Care, Health Care, Detention and Correctional, and Residential Occupancies consisting of Lodging and Rooming Houses, Hotels, Dormitories, Apartments and Residential Board and Care Facilities, shall be as specified in Table 34.1.3.2(a) through Table 34.1.3.2(h).

Table 34.1.3.2(a) Maximum Allowable Quantities of Hazardous Materials per Control Area in Assembly Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>[ROC 623]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIA</td>
<td>NP</td>
<td>60 gal</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>IIIB</td>
<td>NP</td>
<td>120 gal</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizing</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>Explosives</td>
<td>NP</td>
<td>NP [ROC 638]</td>
<td>NP [ROC 638]</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP 20 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Liquefied</td>
<td>[ROC 619]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP [ROC 637]</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10 lb</td>
<td>NP</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>1 gal</td>
<td>NP</td>
<td>NP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 34.1.3.2(a) Continued

<table>
<thead>
<tr>
<th>Material Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing Gas [^{1}] [ROC 619]</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NP</td>
<td>15 gal</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>Detonatable</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>1500 lb</td>
<td>1500 lb</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>100,000 lb</td>
<td>100,000 lb</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td>NP</td>
<td>1 lb</td>
<td>1 lb</td>
</tr>
<tr>
<td>Unstable Reactives</td>
<td>4</td>
<td>¼ lb</td>
<td>¼ lb</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
</tr>
<tr>
<td>Toxic</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
</tr>
</tbody>
</table>

NP: Not permitted.

\[^{1}\] Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

\[^{2}\] Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.

\[^{3}\] Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.

\[^{4}\] Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.

\[^{5}\] Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]

\[^{6}\] Fuel or oxidizing gas used for maintenance, repair, and operation of equipment shall not exceed 250 ft³. [ROC 619]

\[^{7}\] The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. [ROC 638]

\[^{8}\] The storage and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopoeia, or the National Formulary shall not be limited. [ROC 638]

\[^{9}\] The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. [ROC 638]

\[^{10}\] The storage and use of small arms ammunition and components thereof when in accordance with NFPA 495. [ROC 638]

Table 34.1.3.2(b) Maximum Allowable Quantities of Hazardous Materials per Control Area in Ambulatory Health Care Occupancies

<table>
<thead>
<tr>
<th>Material Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid [^{a, b}] [ROC 623]</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
</tr>
<tr>
<td></td>
<td>IIIA</td>
<td>NP [ROC 632]</td>
<td>60 gal [ROC 632]</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal [ROC 632]</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>NP</td>
<td>10 gal</td>
</tr>
</tbody>
</table>

\[^{a}\] Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

\[^{b}\] Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
### Table 34.1.3.2(b)  Continued

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
</table>
| Explosives
g,h,i [ROC 638]| NP | NP | 10 gal | NP |
| Explosives
g,h,i [ROC 638]| NP | NP | NP | NP |
| Flammable Gas\[ROC 619]\ | Gaseous | NP | NP | NP |
| Flammable Gas\[ROC 619]\ | Liquefied | NP | 20 lb | NP |
| Flammable Solid | NP | 5 lb | NP | NP |
| Oxidizers | 4 | NP | NP | NP |
| Oxidizers | 3 | 10 lb\[^g\] | 1 gal\[^g\] | NP |
| Oxidizers | 2 | 250 lb | 25 gal | NP |
| Oxidizers | 1 | 4000 lb\[^g\] [ROC 632] | 400 gal\[^g\] [ROC 632] | NP |
| Organic Peroxides | IV | 1500 lb | 1500 lb | NA |
| Organic Peroxides | V | 100,000 lb | 100,000 lb | NA |
| Organic Peroxides | Unlimited | Unlimited | Unlimited | NA |
| Unstable Reactives | 2 | 10 lb | 10 lb | NP [ROC 619, 620] |
| Unstable Reactives | 1 | Unlimited | Unlimited | NP [ROC 620] |
| Water Reactive | 3 | 1 lb | 1 lb | NA |
| Water Reactive | 2 | 10 lb | 10 lb | NA |
| Water Reactive | 1 | Unlimited | Unlimited | NA |
| Corrosives | NP | 1000 lb | 100 gal | NP [ROC 620] |
| Corrosives | NP | 3 lb | 3 lb | NP[^i] [ROC 620] |
| Toxic | NP | 125 lb | 125 lb | NP[^i] [ROC 620] |

NP: Not permitted. [ROC 632]

\[^a\]Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

\[^b\]Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.

\[^c\]Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.

\[^d\]Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.

\[^e\]Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]

\[^f\]Fuel or oxidizing gas used for maintenance, repair, and operation of equipment shall not exceed 250 ft³. [ROC 619]

\[^g\]The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. [ROC 638]

\[^h\]The storage and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopoeia, or the National Formulary shall not be limited. [ROC 638]

\[^i\]The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. [ROC 638]

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The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13. [ROC 632]

### Table 34.1.3.2(c) Maximum Allowable Quantities of Hazardous Materials per Control Area in Business Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>[ROC 623]</td>
<td>IIIA</td>
<td>NP</td>
<td>60 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Oxidizing</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Explosives[^g,h,i] [ROC 638]</td>
<td>NP</td>
<td>1/4 lb</td>
<td>1/4 lb</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Gas[^b]</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>1000 ft³</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NP</td>
<td>20 lb</td>
<td>NP</td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP</td>
<td>[ROC 637]</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 lb</td>
<td>1 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
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<td>250 lb</td>
<td>25 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 lb</td>
<td>400 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>1500 ft³</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NP</td>
<td>15 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Detonatable</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>1500 lb</td>
<td>1500 lb</td>
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<td>V</td>
<td>100,000 lb</td>
<td>100,000 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td>NP</td>
<td>1 lb</td>
<td>1 lb</td>
<td>10 ft³</td>
</tr>
<tr>
<td>Unstable Reactives</td>
<td>4</td>
<td>1/4 lb</td>
<td>1/4 lb</td>
<td>2 ft³</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>10 ft³</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>750 ft³</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
<td>810 ft³</td>
</tr>
<tr>
<td>Highly Toxic[^d]</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
<td>20 ft³</td>
</tr>
<tr>
<td>Toxic[^d]</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
<td>810 ft³</td>
</tr>
</tbody>
</table>

NP: Not permitted.

[^a]: Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

[^b]: Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.

[^c]: Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.

[^d]: Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.

[^e]: Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]
The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. [ROC 638]

The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. [ROC 638]

The storage and use of small arms ammunition and components thereof when in accordance with NFPA 495. [ROC 638]

Table 34.1.3.2(d) Maximum Allowable Quantities of Hazardous Materials per Control Area in Educational Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IIIA</td>
<td>NP</td>
<td>60 gal [ROC 631]</td>
<td>NP [ROC 631]</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal [ROC 631]</td>
<td>NP [ROC 631]</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Oxidizing</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Explosives g, h, i [ROC 638]</td>
<td>NP</td>
<td>NP [ROC 638]</td>
<td>NP [ROC 638]</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Gas e, f [ROC 619]</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NP</td>
<td>20 lb</td>
<td>NP</td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP [ROC 631, 637]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 lb f</td>
<td>1 gal f</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>250 lb</td>
<td>25 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 lb [ROC 631]</td>
<td>400 gal [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizing Gas e [ROC 619]</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NP</td>
<td>15 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>NP [ROC 631]</td>
<td>NP [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>NP [ROC 631]</td>
<td>NP [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>NP [ROC 631]</td>
<td>NP [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>1500 lb</td>
<td>1500 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>100,000 lb</td>
<td>100,000 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
<td>NA [ROC 620]</td>
</tr>
<tr>
<td>Toxic</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
<td>NA [ROC 620]</td>
</tr>
</tbody>
</table>

NP: Not permitted.

*Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.
Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code. Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved. Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. 

Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods. The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. The storage and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopoeia, or the National Formulary shall not be limited. 

The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. 

Storage in laboratories only; additional 20 lb units where minimum 20 ft separation is provided. 

Table 34.1.3.2(e) Maximum Allowable Quantities of Hazardous Materials per Control Area in Day Care Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IIIA</td>
<td>NP [ROC 631]</td>
<td>60 gal [ROC 631]</td>
<td>NP [ROC 631]</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Oxidizing</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Explosives</td>
<td>NP</td>
<td>NP [ROC 638]</td>
<td>NP [ROC 638]</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>Liquified</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP [ROC 631, 637]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>250 lb</td>
<td>1 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 lb [ROC 631]</td>
<td>400 gal [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>Liquified</td>
<td>NP</td>
<td>15 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>NP [ROC 631]</td>
<td>NP [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>NP [ROC 631]</td>
<td>NP [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>NP [ROC 631]</td>
<td>NP [ROC 631]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>1500 lb</td>
<td>1500 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>100,000 lb</td>
<td>100,000 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 pounds</td>
<td>10 pounds</td>
<td>NP [ROC 619, 620]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NA</td>
</tr>
</tbody>
</table>
Table 34.1.3.2(e)  Continued

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Toxic</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
<td>NP [ROC 620]</td>
</tr>
</tbody>
</table>

NP: Not permitted.

*Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

*Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.

Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.

*Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.

*Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]

*Fuel or oxidizing gas used for maintenance, repair, and operation of equipment shall not exceed 250 ft³. [ROC 619]

*The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. [ROC 638]

*The storage and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopeia, or the National Formulary shall not be limited. [ROC 638]

*The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. [ROC 638]

*The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13. [ROC 631]

Table 34.1.3.2(f)  Maximum Allowable Quantities of Hazardous Materials per Control Area in Health Care Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal [ROC 632]</td>
<td>NP</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable Oxidizing</td>
<td>NP [ROC 638]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Flammable Oxidizing</td>
<td>NP [ROC 638]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Liquefied [ROC 640]</td>
<td>NP [ROC 632]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP [ROC 632, 637]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>5 lb</td>
<td>5 lb</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 lb [ROC 632]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>250 lb</td>
<td>25 gal</td>
<td>25 gal</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 lb [ROC 632]</td>
<td>400 gal [ROC 632]</td>
<td>400 gal [ROC 632]</td>
</tr>
<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>per NFPA 99 [ROC 632]</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NP</td>
<td>15 gal</td>
<td>NP</td>
</tr>
</tbody>
</table>
### Table 34.1.3.2(f) Continued

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>NP</td>
<td>NP [ROC 632]</td>
<td>NP [ROC 632]</td>
<td>NP</td>
</tr>
<tr>
<td>III</td>
<td>NP</td>
<td>NP [ROC 632]</td>
<td>NP [ROC 632]</td>
<td>NP</td>
</tr>
<tr>
<td>IV</td>
<td>1500 lb</td>
<td>1500 lb</td>
<td>100,000 lb</td>
<td>NP</td>
</tr>
<tr>
<td>V</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Toxic</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
<td>NP [ROC 620]</td>
</tr>
</tbody>
</table>

NP: Not permitted. [ROC 632]

- Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.
- Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.
- Maximum quantity of 20 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.
- Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.
- Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]
- Fuel or oxidizing gas used for maintenance, repair, and operation of equipment shall not exceed 250 ft³. [ROC 619]
- The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. [ROC 638]
- The storage and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopoeia, or the National Formulary shall not be limited. [ROC 638]
- The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. [ROC 638]
- Storage in laboratories only; additional storage of 5 lb units permitted where minimum 20 ft separation is provided. [ROC 640]
- The permitted quantities are not limited in a building protected throughout by automatic sprinkler systems in accordance with NFPA 13. [ROC 632]

### Table 34.1.3.2(g) Maximum Allowable Quantities of Hazardous Materials per Control Area in Detention and Correctional Occupancies

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IIIA</td>
<td>NP [ROC 630]</td>
<td>60 gal [ROC 630]</td>
<td>NP [ROC 630]</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal [ROC 630]</td>
<td>NP</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable Oxidizing</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Explosives</td>
<td>NP</td>
<td>NP [ROC 638]</td>
<td>NP [ROC 638]</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Gas</td>
<td>Gaseous Liquefied</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NP</td>
<td>20 lb</td>
<td>NP</td>
</tr>
</tbody>
</table>

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Table 34.1.3.2(g)  **Continued**

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP [ROC 630, 637]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 lb</td>
<td>1 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>250 lb</td>
<td>25 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 lb</td>
<td>400 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizing Gas [ROC 619]</td>
<td>Gaseous</td>
<td>NA</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>Liquefied</td>
<td>NA</td>
<td>15 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>NP [ROC 630]</td>
<td>NP [ROC 630]</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Detonatable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td>1500 lb</td>
<td>1500 lb</td>
<td>NP</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td>100,000 lb</td>
<td>100,000 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Unstable Reactives</td>
<td>4</td>
<td>NP [ROC 630]</td>
<td>NP [ROC 630]</td>
<td>NP [ROC 620, 630]</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>NP [ROC 630]</td>
<td>NP [ROC 630]</td>
<td>NP [ROC 620, 630]</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NP [ROC 620, 630]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Toxic</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
<td>NP [ROC 620]</td>
</tr>
</tbody>
</table>

NP: Not permitted.

*Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

*Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.

*Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.

*Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.

*Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]

*Fuel or oxidizing gas used for maintenance, repair, and operation of equipment shall not exceed 250 ft³. [ROC 619]

*The use of explosive materials required by federal, state, or municipal agencies while engaged in normal or emergency performance of duties shall not be limited. The storage of explosive materials shall be in accordance with the requirements of NFPA 495. [ROC 638]

*The storage and use of explosive materials in medicines and medicinal agents in the forms prescribed by the official United States Pharmacopoeia, or the National Formulary shall not be limited. [ROC 638]

*The storage and use of propellant actuated devices or propellant actuated industrial tools manufactured, imported, or distributed for their intended purposes shall be limited to 50 pounds net-explosive weight. [ROC 638]

*The storage and use of small arms ammunition and components thereof in accordance with NFPA 495. [ROC 638]
Table 34.1.3.2(h) Maximum Allowable Quantities of Hazardous Materials per Control Area in Residential Occupancies consisting of Lodging and Rooming Houses, Hotels, Dormitories, Apartments and Residential Board and Care Facilities

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
<th>Solid</th>
<th>Liquid</th>
<th>Gas (ft³ at NTP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable and Combustible Liquid</td>
<td>I and II combined</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>[ROC 623]</td>
<td>IIIA</td>
<td>NP</td>
<td>60 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>IIIB</td>
<td>NP</td>
<td>120 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Cryogenic Liquid</td>
<td>Flammable</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Oxidizing</td>
<td>NP</td>
<td>10 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Explosives</td>
<td>NP</td>
<td>NP [ROC 638]</td>
<td>NP [ROC 638]</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>[ROC 619]</td>
<td>Liquefied</td>
<td>NP</td>
<td>20 lb</td>
<td>NP</td>
</tr>
<tr>
<td>Consumer Fireworks</td>
<td>1.4G</td>
<td>NP [ROC 637]</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>NP</td>
<td>5 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Oxidizers</td>
<td>4</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 lb↑</td>
<td>1 gal↑</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>250 lb</td>
<td>25 gal</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4000 lb</td>
<td>400 gal</td>
<td>NPA</td>
</tr>
<tr>
<td>Oxidizing Gas</td>
<td>Gaseous</td>
<td>NP</td>
<td>NP</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>[ROC 619]</td>
<td>Liquefied</td>
<td>NP</td>
<td>15 gal</td>
<td>NP</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Unclassified</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Detonatable</td>
<td>I</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>II</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>III</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>IV</td>
<td>1500 lb</td>
<td>1500 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>V</td>
<td>100,000 lb</td>
<td>100,000 lb</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP</td>
</tr>
<tr>
<td>Pyrophoric Materials</td>
<td>NP</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Unstable Reactives</td>
<td>4</td>
<td>¼ lb</td>
<td>¼ lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NP [ROC 619, 620]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Water Reactive</td>
<td>3</td>
<td>1 lb</td>
<td>1 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 lb</td>
<td>10 lb</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>NA</td>
</tr>
<tr>
<td>Corrosives</td>
<td>NP</td>
<td>1000 lb</td>
<td>100 gal</td>
<td>NP [ROC 620]</td>
</tr>
<tr>
<td>Highly Toxic</td>
<td>NP</td>
<td>3 lb</td>
<td>3 lb</td>
<td>NP↑ [ROC 620]</td>
</tr>
<tr>
<td>Toxic</td>
<td>NP</td>
<td>125 lb</td>
<td>125 lb</td>
<td>NP↑ [ROC 620]</td>
</tr>
</tbody>
</table>

NP: Not permitted.

*Storage in excess of 10 gal of Class I and Class II combined or 60 gal of Class IIIA liquids shall be permitted when stored in safety cabinets with an aggregate quantity not to exceed 180 gal.

*Fuel in the tank of operating mobile equipment shall be permitted to exceed the specified quantity when the equipment is operated in accordance with the fire code.

*Maximum quantity of 200 lb of solid or 20 gal of liquid Class 3 oxidizer is permitted where such materials are necessary for maintenance purposes, operation, or sanitation of equipment. Storage containers and the manner of storage are required to be approved.

*Gas cylinders not exceeding 20 ft³ at NTP are allowed in gas cabinets or fume hoods.

*Unlimited amounts of gas shall be allowed to be used for personal medical or emergency medical use. [ROC 618]

*Fuel or oxidizing gas used for maintenance, repair, and operation of equipment shall not exceed 250 ft³. [ROC 619]

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34.1.3.3 Mercantile, Storage, and Industrial Occupancies.

34.1.3.3.1 Maximum Allowable Quantity Increase for Mercantile, Storage, and Industrial Occupancies. The aggregate quantity of nonflammable solid and nonflammable or non-combustible liquid hazardous materials permitted within a single control area of a mercantile, storage, or industrial occupancy shall be permitted to exceed the maximum allowable quantities specified in Table 34.1.3.1, without complying with Protection Level 2, Protection Level 3, or Protection Level 4, provided that the quantities comply with Table 34.1.3.1(a) and Table 34.1.3.1(b) and that materials are displayed and stored in accordance with the special limitations on storage height, storage density, and other controls specified in NFPA 1.

Table 34.1.3.3.1(a) Maximum Allowable Quantity per Control Area Increases for Selected Hazard Categories in Mercantile, Storage, and Industrial Occupancies

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Solids (lb)</th>
<th>Liquids (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Hazard Materials: Nonflammable and Noncombustible Solids and Liquids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>1,150</td>
<td>115</td>
</tr>
<tr>
<td>Class 2</td>
<td>2,250</td>
<td>225</td>
</tr>
<tr>
<td>Class 1</td>
<td>18,000c</td>
<td>1,800c</td>
</tr>
</tbody>
</table>

For SI units: 1 lb = 0.454 kg; 1 gal = 3.785 L.
Note: Maximum quantities for hazard categories not shown are required to be in accordance with Table 34.1.3.1.

34.1.3.3.2 Maximum Allowable Quantity Increase for Sale of Alcoholic Beverages, Medicines, Foodstuffs, and Cosmetics.

34.1.3.3.2.1 Quantities of alcoholic beverages shall not be limited in mercantile occupancies, provided that the liquids are packaged in individual containers not exceeding 1.3 gal (4.9 L).

34.1.3.3.2.2 Quantities of medicines, foodstuffs, and cosmetics containing not more than 50 percent by volume of water-miscible liquids, and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1 gal (3.78 L).

Table 34.1.3.3.1(b) Maximum Allowable Quantity per Control Area Increases for Selected Hazard Categories in Mercantile and Storage Occupancies

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Maximum Allowable Quantitya,b</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solids (lb)</td>
</tr>
<tr>
<td>Physical Hazard Materials: Nonflammable and Noncombustible Solids and Liquids</td>
<td></td>
</tr>
<tr>
<td>Unstable (reactive)</td>
<td>Class 3</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
</tr>
<tr>
<td>Water reactive</td>
<td>Class 3</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
</tr>
<tr>
<td>Health Hazard Materials: Nonflammable and Noncombustible Solids and Liquids</td>
<td></td>
</tr>
<tr>
<td>Corrosive</td>
<td>10,000</td>
</tr>
<tr>
<td>Highly toxic</td>
<td>20</td>
</tr>
<tr>
<td>Toxic</td>
<td>1,000</td>
</tr>
</tbody>
</table>

For SI units: 1 lb = 0.454 kg; 1 gal = 3.785 L.
Note: Maximum quantities for hazard categories not shown are required to be in accordance with Table 34.1.3.1.

34.1.3.3.3 Maximum Allowable Quantities of Flammable and Combustible Liquids in Industrial Occupancies. The maximum allowable quantity of flammable and combustible liquids in storage and closed use combined in Industrial Occupancies shall be as follows: [ROC 601]

(1) 95 L (25 gal) of Class IA liquids in containers [30:7.5.4.1(1)]
(2) 454 L (120 gal) of Class IB, Class IC, Class II, or Class III liquids in containers [30:7.5.4.1(2)]
(3) 6000 L (1586 gal) of any combination of the following: [30:7.5.4.1(3)]
   (a) Class IB, IC, II, or IIIA liquids in metal portable tanks or metal intermediate bulk containers, each not exceeding 3000 L (793 gal)
   (b) Class II or Class IIIA liquids in nonmetallic intermediate bulk containers, each not exceeding 3000 L (793 gal)

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4.1.4 Performance Alternative. In lieu of complying with Chapter 34 in its entirety, occupancies containing high hazard Level 1 to high hazard Level 5 contents shall be permitted to comply with 34.1.4.1 and 34.1.4.2.

34.1.4.1 Goal. The goal of performance-based designs for facilities containing high hazard contents shall be to protect people and property from the consequences of unauthorized discharges, fires, or explosions involving hazardous materials.

34.1.4.1.1 Such designs shall minimize the risk of such events and shall minimize the consequences of such events if they occur.

34.1.4.1.2 Performance-based designs shall also comply with Chapter 4 and Chapter 5.

34.1.4.2 Objectives.

34.1.4.2.1 To satisfy the goal established in 34.1.4.1, performance-based designs for facilities containing high hazard contents shall identify the properties of hazardous materials to be stored, used, or handled and shall provide adequate and reliable safeguards to accomplish the following objectives, considering both normal operations and possible abnormal conditions:

1. Minimize the potential occurrence of unwanted releases, fires, or other emergency incidents resulting from the storage, use, or handling of hazardous materials
2. Minimize the potential failure of buildings, equipment, or processes involving hazardous materials by ensuring that such buildings, equipment, or processes are reliably designed and are suitable for the hazards present
3. Minimize the potential exposure of people or property to unsafe conditions or events involving an unintended reaction or release of hazardous materials
4. Minimize the potential for an unintentional reaction that results in a fire, explosion, or other dangerous condition
5. Provide a means to contain, treat, neutralize, or otherwise handle plausible releases of hazardous materials to minimize the potential for adverse impacts to persons or property outside of the immediate area of a release
6. Provide appropriate safeguards to minimize the risk of, and limit the damage and injury that might result from, an explosion involving hazardous materials that present explosion hazards
7. Detect hazardous levels of gases or vapors that are dangerous to health, and alert appropriate persons or mitigate the hazard when the physiological warning properties for such gases or vapors are inadequate to warn of danger prior to personal injury
8. Maintain power to provide for continued operation of safeguards and important systems that are relied on to prevent or control an emergency condition involving hazardous materials
9. Maintain ventilation where ventilation is relied on to minimize the risk of emergency conditions involving hazardous materials
10. Minimize the potential for exposing combustible hazardous materials to unintended sources of ignition, and for exposing any hazardous material to fire or physical damage that can lead to endangerment of people or property

34.1.4.2.2 As part of the design process, a process hazard analysis and off-site consequence analysis shall be conducted where necessary to reasonably ensure that people and property are satisfactorily protected from dangerous conditions involving hazardous materials.

34.1.4.2.3 The results of analyses of 34.1.4.2.2 shall be considered when determining active and passive mitigation measures used in accomplishing the objectives set forth in 34.1.4.2.1.

34.1.4.2.4 In addition, written procedures for pre-start-up safety reviews, normal and emergency operations, management of change, emergency response, and accident investigation and documentation shall be developed prior to beginning operations at a facility designed in accordance with 34.1.4.

34.1.4.2.5 Procedures, as described in 34.1.4.2.4, shall be developed with the participation of affected employees.

34.2 Requirements for All Occupancies Containing High Hazard Contents.

34.2.1 Applicability. Buildings, and portions thereof, containing hazardous materials regulated by this Code shall comply with Section 34.2.

34.2.2 Fire Prevention Code. Buildings, and portions thereof, where hazardous materials are stored, used, or handled shall also comply with NFPA 1.

34.2.3 Special Information for Permit Application.

34.2.3.1 Permit applications for buildings, and portions thereof, containing high hazard contents shall be accompanied by the following:

1. Plan showing the location of storage and use areas
2. Maximum quantity of each class of hazardous material stored and used in each area

34.2.3.2 When required by the authority having jurisdiction, the permit applicant shall provide, without charge to the jurisdiction, a technical opinion and report prepared by a qualified engineer, specialist, laboratory, or fire safety specialty organization that analyzes the fire safety and life safety properties of the design, operation, or use of the building or facility and demonstrates compliance with this Code.

34.2.4 Control Areas. Control areas shall be those spaces within a building where quantities of hazardous contents not exceeding the maximum quantities allowed by this Code are stored, dispensed, used, or handled.

34.2.4.1 Construction Requirements. Control areas shall be separated from each other fire barriers in accordance with Table 34.2.4.1.

34.2.4.2 Where only one control area is present in a building, no special construction provisions shall be required.

34.2.4.3 Number. The maximum number of control areas within a building shall be in accordance with Table 34.2.4.1. [ROC 647]

34.2.5 Weather Protection. Where weather protection is provided for sheltering outside hazardous material storage or use areas, such storage or use areas shall be considered outside...
34.3.2.4 Egress. Egress from areas required to comply with Protection Level 1, Protection Level 2, Protection Level 3, or Protection Level 4 shall comply with 34.3.2.4, and egress from areas required to comply with Protection Level 5 shall comply with 34.3.7.

34.3.2.4.1 Travel Distance Limit. Travel distance to an exit from areas required to comply with Protection Level 1 through Protection Level 5 shall not exceed the distance given in Table 34.3.2.4.1, measured as required in 11.6.2.

34.3.2.4.2 Capacity of Means of Egress. Egress capacity for high hazard contents areas shall be based on 0.7 in. (18 mm) per person for stairs or 0.4 in. (10 mm) per person for level components and ramps in accordance with 11.3.3.

34.3.2.4.3 Number of Means of Egress. Not less than two means of egress shall be provided from each building, or portion thereof, required to comply with Section 34.3, unless rooms or spaces do not exceed 200 ft² (18.6 m²), have an occupant load not exceeding three persons, and have a travel distance to the room door not exceeding 25 ft (7.6 m).

34.3.2.4.4 Dead Ends. Means of egress, for other than rooms or spaces that do not exceed 200 ft² (18.6 m²), have an occupant load not exceeding three persons, and have a travel dis-

---

**Table 34.2.4.1 Design and Number of Control Areas**

<table>
<thead>
<tr>
<th>Floor Level</th>
<th>Maximum Allowable Quantity per Control Area (%)</th>
<th>Number of Control Areas per Floor</th>
<th>Fire Resistance Rating for Fire Barriers (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;0</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7–9</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4–6</td>
<td>12.5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>75</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Below grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>75</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Lower than 2</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

NA: Not applicable.

*Percentages represent the maximum allowable quantities per control area shown in Table 34.1.3.1, with all of the increases permitted in the footnotes of that table.

Fire barriers are required to include floors and walls, as necessary, to provide a complete separation from other control areas.

storage or use areas, provided that all of the following conditions are met:

1. Supports and walls shall not obstruct more than one side or more than 25 percent of the perimeter of the storage or use area.

2. The distance from the structure and the structural supports to buildings, lot lines, public ways, or means of egress to a public way shall not be less than the distance required by NFPA 1 for an outside hazardous material storage or use area without weather protection.

3. Weather-protection structures constructed in accordance with 34.2.5 shall not contain explosive or detonable materials.

34.3 Requirements for Occupancies Exceeding the Maximum Allowable Quantities per Control Area for High Hazard Contents.

34.3.1 Protection Levels. Buildings, and portions thereof, where high hazard contents are stored, used, or handled shall comply with the protection levels as set forth in Section 34.3.

34.3.1.1 Protection Level 1. Buildings containing quantities of hazardous materials exceeding the maximum allowable quantities of high hazard Level 1 contents permitted in control areas shall comply with applicable regulations for Protection Level 1, as set forth in 34.3.3.

34.3.1.2 Protection Level 2. Buildings, and portions thereof, containing quantities of hazardous materials exceeding the maximum allowable quantities of high hazard Level 2 contents permitted in control areas shall comply with applicable regulations for Protection Level 2, as set forth in 34.3.4.

34.3.1.3 Protection Level 3. Buildings, and portions thereof, containing quantities of hazardous materials exceeding the maximum allowable quantities of high hazard Level 3 contents permitted in control areas shall comply with applicable regulations for Protection Level 3, as set forth in 34.3.5.

34.3.1.4 Protection Level 4. Buildings, and portions thereof, containing quantities of hazardous materials exceeding the maximum allowable quantities of high hazard Level 4 contents permitted in control areas shall comply with applicable regulations for Protection Level 4, as set forth in 34.3.6.

34.3.1.5 Protection Level 5. Buildings, and portions thereof, used for fabrication of semiconductors or semiconductor research and development and containing quantities of hazardous materials exceeding the maximum allowable quantities of high hazard Level 5 contents permitted in control areas shall comply with applicable regulations for Protection Level 5, as set forth in 34.3.7.

34.3.2 General Requirements. The requirements set forth in 34.3.2 shall apply to buildings, or portions thereof, that are required to comply with Protection Level 1 through Protection Level 5 where required by 34.3.1.1 through 34.3.1.5.

34.3.2.1 Fire Protection Systems. Buildings, or portions thereof, required to comply with Protection Level 1 through Protection Level 5 shall be protected by an approved automatic fire sprinkler system complying with Section 55.3 and 55.3.2.

34.3.2.1.1 Rooms or areas that are of noncombustible construction with wholly noncombustible contents shall not be required to comply with 34.3.2.1.

34.3.2.1.2 Portable magazines not exceeding 120 ft² constructed in accordance with NFPA 495, Explosive Materials Code, shall not be required to comply with 34.3.2.1.

34.3.2.2 Building Height Exception. The height of a single-story building, or portion thereof, containing only tanks or industrial process equipment shall not be limited based on the type of construction.

34.3.2.3 Separation of Occupancies Having High Hazards. The separation of areas containing high hazard contents from each other and from other use areas shall be as required by Table 34.3.2.3 and shall not be permitted to be reduced with the installation of fire protection systems as required by 34.3.2.1.

34.3.2.4.1 Travel Distance Limit. Travel distance to an exit from areas required to comply with Protection Level 1 through Protection Level 5 shall not exceed the distance given in Table 34.3.2.4.1, measured as required in 11.6.2.

34.3.2.4.2 Capacity of Means of Egress. Egress capacity for high hazard contents areas shall be based on 0.7 in. (18 mm) per person for stairs or 0.4 in. (10 mm) per person for level components and ramps in accordance with 11.3.3.

34.3.2.4.3 Number of Means of Egress. Not less than two means of egress shall be provided from each building, or portion thereof, required to comply with Section 34.3, unless rooms or spaces do not exceed 200 ft² (18.6 m²), have an occupant load not exceeding three persons, and have a travel distance to the room door not exceeding 25 ft (7.6 m).

34.3.2.4.4 Dead Ends. Means of egress, for other than rooms or spaces that do not exceed 200 ft² (18.6 m²), have an occupant load not exceeding three persons, and have a travel dis-
34.3.2.4.5 Doors. Doors serving high hazard contents areas with occupant loads in excess of five shall be permitted to be provided with a latch or lock only if the latch or lock is panic hardware or fire exit hardware complying with 11.2.1.7.

34.3.2.5 Ventilation.

34.3.2.5.1 Buildings, or portions thereof, in which explosive, flammable, combustible, corrosive, or highly toxic dusts, mists, fumes, vapors, or gases are, or might be, emitted shall be provided with mechanical exhaust ventilation or natural ventilation where natural ventilation can be shown to be acceptable for the materials as stored.

34.3.2.5.2 Mechanical exhaust systems shall comply with the Uniform Mechanical Code, as referenced in Chapter 50.

34.3.2.5.3 Mechanical ventilation shall be at a rate of not less than 1 ft³/min/ft² (5.1 L/s/m²) of floor area over areas required to comply with Protection Level 1 through Protection Level 5.

34.3.2.5.4 Areas containing Class I liquids or Class II liquids at temperatures above their flash points, or Class IIIA liquids at temperatures above their flash points, shall be ventilated at a rate sufficient to maintain the concentration of vapors within the area at or below 25 percent of the lower explosive limit.

Table 34.3.2.3 Required Separation of Occupancies Containing High Hazard Contents (hours)

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>Protection Level 1</th>
<th>Protection Level 2</th>
<th>Protection Level 3</th>
<th>Protection Level 4</th>
<th>Protection Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment buildings</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Assembly ≤ 300</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Assembly &gt; 300 and ≤ 1000</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Assembly &gt; 1000</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Board and care, small</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Board and care, large</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Business</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Day-care &gt; 12</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Day-care homes</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Detention and correctional</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Dwellings, one- and two-family</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Educational</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Protection Level 1</td>
<td>—</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Protection Level 2</td>
<td>NP</td>
<td>—</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Protection Level 3</td>
<td>NP</td>
<td>1</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Protection Level 4</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>Protection Level 5</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>—</td>
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<tr>
<td>Health care, ambulatory</td>
<td>NP</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Health care, nonambulatory</td>
<td>NP</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Hotels and dormitories</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Industrial, general purpose</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Industrial, special purpose</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lodging and rooming houses</td>
<td>NP</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Mercantile, Class A</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mercantile, Class B</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mercantile, Class C</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mercantile, covered mall</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mercantile, bulk retail</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Storage, low and ordinary hazard</td>
<td>NP</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

NP: Not permitted.

1Rooms, in excess of 150 sq ft, storing flammable liquids, combustible liquids or class III oxidizers, shall be provided with not less than a 2 hour separation. [ROC 647a]

Table 34.3.2.4.1 Travel Distance Limits

<table>
<thead>
<tr>
<th>Hazard Level</th>
<th>Distance ft</th>
<th>Distance m</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>75</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>150</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>175</td>
<td>53</td>
</tr>
<tr>
<td>5</td>
<td>200</td>
<td>61</td>
</tr>
</tbody>
</table>

tance to the room door not exceeding 25 ft (7.6 m), shall be arranged so that there are no dead ends in corridors.

34.3.2.4.5 Doors. Doors serving high hazard contents areas with occupant loads in excess of five shall be permitted to be provided with a latch or lock only if the latch or lock is panic hardware or fire exit hardware complying with 11.2.1.7.

34.3.2.5 Ventilation.

34.3.2.5.1 Buildings, or portions thereof, in which explosive, flammable, combustible, corrosive, or highly toxic dusts, mists, fumes, vapors, or gases are, or might be, emitted shall be provided with mechanical exhaust ventilation or natural ventilation where natural ventilation can be shown to be acceptable for the materials as stored.

34.3.2.5.2 Mechanical exhaust systems shall comply with the Uniform Mechanical Code, as referenced in Chapter 50.

34.3.2.5.3 Mechanical ventilation shall be at a rate of not less than 1 ft³/min/ft² (5.1 L/s/m²) of floor area over areas required to comply with Protection Level 1 through Protection Level 5.

34.3.2.5.4 Areas containing Class I liquids or Class II liquids at temperatures above their flash points, or Class IIIA liquids at temperatures above their flash points, shall be ventilated at a rate sufficient to maintain the concentration of vapors within the area at or below 25 percent of the lower explosive limit.

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34.3.2.5.5 Ventilation requirements shall be determined by calculations based on anticipated fugitive emissions or by sampling of the actual vapor concentration levels under normal operating conditions.

34.3.2.5.6 Make-up air shall be provided, and provision shall be made for locating make-up air openings to avoid short-circuiting the ventilation.

34.3.2.5.7 Ducts conveying explosives or flammable vapors, fumes, or dusts shall extend directly to the exterior of the building without entering other spaces.

34.3.2.5.7.1 Exhaust ducts shall not extend into or through ducts and plenums.

34.3.2.5.7.2 Ducts conveying vapor or fumes having flammable constituents less than 25 percent of their lower flammability limit shall be permitted to pass through other spaces.

34.3.2.5.8 Emissions generated at work stations shall be confined to the area in which they are generated as specified in NFPA 1, Uniform Fire Code, as referenced in Chapter 50.

34.3.2.5.9 The location of supply and exhaust openings shall be in accordance with the Uniform Mechanical Code, as referenced in Chapter 50.

34.3.2.5.10 Exhaust air contaminated by highly toxic material shall be treated when required by NFPA 1.

34.3.2.5.11 Systems shall operate continuously unless alternate designs are approved.

34.3.2.5.12 A manual shutoff control for ventilation equipment required by 34.3.2.5 shall be provided outside the room adjacent to the principal access door to the room.

34.3.2.5.13 The shutoff control described in 34.3.2.5.12 shall be of the break-glass type and shall be labeled as follows:

VENTILATION SYSTEM EMERGENCY SHUTOFF

34.3.2.5.14 Exhaust ventilation shall be arranged to consider the density of the potential fumes or vapors released.

34.3.2.5.14.1 For fumes or vapors that are heavier than air, exhaust shall be taken from a point within 12 in. (305 mm) of the floor.

34.3.2.5.14.2 The location of both the exhaust and inlet air openings shall be arranged to provide air movement across all portions of the floor or room to prevent the accumulation of vapors.

34.3.2.5.14.3 Exhaust ventilation shall not be recirculated within the room or building if the materials stored are capable of emitting hazardous vapors.

34.3.2.5.14.4 Recirculation shall be permitted where it is monitored continuously using a fail-safe system that is designed to automatically sound an alarm, stop recirculation, and provide full exhaust to the outside in the event that vapor–air mixtures in concentrations over one-fourth of the lower flammable limit are detected. [ROC 648]

34.3.2.6 Explosion Control. Buildings, or portions thereof, required to comply with Protection Level 1 through Protection Level 3 and containing materials shown in Table 34.3.2.6 shall be provided with a means of explosion control.

34.3.2.7 Standby and Emergency Power.

34.3.2.7.1 Where mechanical ventilation, treatment systems, temperature control, alarm, detection, or other electrically operated safety systems are required by this Code or NFPA 1, such systems shall be provided with standby power or emergency power as required by 34.3.2.7.

34.3.2.7.2 Standby power for mechanical ventilation, exhaust treatment, and temperature control systems shall not be re-
quired where such systems are engineered and approved as fail-safe.

34.3.2.7.3 The secondary source of power shall be an approved means of legally required standby power in accordance with NFPA 70, National Electrical Code, except for areas containing highly toxic or toxic gases, where a legally required emergency power system in accordance with Chapter 52 and NFPA 55, Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks, shall be provided to operate safety systems required by this Code or NFPA 1.

34.3.2.8 Spill Control and Secondary Containment for Hazardous Materials Liquids and Solids.

34.3.2.8.1 General. Buildings, or portions thereof, required to comply with Protection Level 1 through Protection Level 5 shall be provided with spill control and secondary containment in accordance with 34.3.2.8.2 and 34.3.2.8.3.

34.3.2.8.2 Spill Control.

34.3.2.8.2.1 Buildings, or portions thereof, used for any of the following shall be provided with spill control to prevent the flow of liquids to adjoining areas:

1. Storage or closed system use of hazardous materials liquids in individual vessels having a capacity of more than 55 gal (208.2 L)
2. Dispensing of hazardous materials liquids into vessels exceeding a 1.1-gal (4-L) capacity
3. Open use of hazardous materials in vessels or systems exceeding a 5.3-gal (20-L) capacity

34.3.2.8.2.2 Where spill control is required, floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations
2. Liquid-tight floors in indoor locations or similar areas in outdoor locations provided with liquid-tight raised or recessed sills or dikes
3. Sumps and collection systems

34.3.2.8.2.3 Except for surfacing, the floors, sills, dikes, sumps, and collection systems shall be constructed of noncombustible material, and the liquid-tight seal shall be compatible with the material stored.

34.3.2.8.2.4 Where liquid-tight sills or dikes are provided, they shall not be required at perimeter openings that are provided with an open-grate trench across the opening that connects to an approved collection system.

34.3.2.8.3 Secondary Containment.

34.3.2.8.3.1 Buildings, or portions thereof, used for any of the following shall be provided with secondary containment in accordance with the following:

1. Storage of liquids where the capacity of an individual vessel exceeds 55 gal (208.2 L) or the aggregate capacity of multiple vessels exceeds 1000 gal (3785 L)
2. Storage of solids where the capacity of an individual vessel exceeds 550 lb (248.8 kg) or the aggregate capacity of multiple vessels exceeds 10,000 lb (4524.8 kg)
3. Use-open of liquids where the capacity of an individual vessel or system exceeds 1.1 gal (4 L)
4. Use-open of liquids where the capacity of multiple vessels or systems exceeds 5.3 gal (20 L)

34.3.2.8.3.2 Buildings, or portions thereof, containing only hazardous materials in listed secondary containment tanks or systems shall not be required to comply with 34.3.2.8.3.1.

34.3.2.8.3.3 Buildings, or portions thereof, containing only flammable solids, explosive solids, or corrosive solids shall not be required to comply with 34.3.2.8.3.1. [ROC 625]

34.3.2.8.3.4 Secondary containment shall be by drainage control where required by NFPA 30. [ROC 650]

34.3.2.8.3.5 The building, room, or area shall contain or drain the hazardous materials and fire protection water through the use of one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations
2. Liquid-tight floors in indoor locations or similar areas in outdoor locations provided with liquid-tight raised or recessed sills or dikes
3. Sumps and collection systems
4. Drainage systems leading to an approved location

34.3.2.8.3.6 Where incompatible materials are present in open containers or systems, such materials shall be separated from each other in the secondary containment system.

34.3.2.8.3.7 Secondary containment for indoor storage areas shall be designed to contain a spill from the largest vessel plus the design flow volume of fire protection water calculated to discharge from the fire-extinguishing system over the minimum required system design area, or area of the room or area in which the storage is located, whichever is smaller, for a period of 20 minutes.

34.3.2.8.3.8 A monitoring method shall be provided to detect hazardous materials in the secondary containment system.

34.3.2.8.3.9 The monitoring method shall be permitted to be visual inspection of the primary or secondary containment, or other approved means.

34.3.2.8.3.10 Where secondary containment is subject to the intrusion of water, a monitoring method for detecting water shall be provided.

34.3.2.8.3.11 Where monitoring devices are provided, they shall be connected to distinct visual or audible alarms.

34.3.2.8.3.12 Where remote containment systems are provided, drainage systems shall be in accordance with the Uniform Plumbing Code, as referenced in Chapter 53, and the following:

1. The slope of floors in indoor locations to drains or similar areas in outdoor locations shall be not less than 1 percent.
2. Drains from indoor storage areas shall be sized to carry the volume of the fire protection water, as determined by the design density discharged from the automatic fire-extinguishing system over the minimum required system design area, or area of the room or area in which the storage is located, whichever is smaller.
3. Materials of construction for drainage systems shall be compatible with the materials stored.
4. Separate drainage systems shall be provided to avoid mixing incompatible materials where such materials are present in an open-use condition.
(5) Drains shall terminate in an approved location away from buildings, valves, means of egress, fire access roadways, adjoining property, and storm drains.

### 34.3.2.9 Floors in Storage Rooms
Floors in storage areas for organic peroxides, oxidizers, pyrophoric materials, unstable (reactive) materials, water-reactive solids and liquids, corrosive materials, and toxic and highly toxic materials shall be of liquid-tight, noncombustible construction.

### 34.3.2.10 Unprotected Vertical Openings

#### 34.3.2.10.1
In industrial occupancies required to comply with 34.3.3, where unprotected vertical openings exist and are necessary to manufacturing operations, such openings shall be permitted beyond the specified limits in 29.3.1(1).

#### 34.3.2.10.2
The unprotected vertical openings described in 34.3.2.10.1 shall be permitted only where every floor level has direct access to one or more enclosed stairs or other exits protected against obstruction by any fire or smoke in the open areas connected by the unprotected vertical openings.

### 34.3.3 Protection Level 1

#### 34.3.3.1 General
Buildings, or portions thereof, required to comply with Protection Level 1 shall comply with 34.3.2 and 34.3.3.2 and 34.3.3.3.

#### 34.3.3.2 Detached Building Required

#### 34.3.3.2.1
Buildings required to comply with Protection Level 1 shall be used for no other purpose; shall not exceed one story in height; and shall be without basements, crawl spaces, or other under-floor spaces.

#### 34.3.3.2.2
Roofs of buildings described in 34.3.3.2.1 shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature.

#### 34.3.3.2.3
Buildings required to comply with both Protection Level 1 and Protection Level 4 shall comply with the most restrictive requirements for both protection levels.

### 34.3.3.3 Minimum Distance to Property Lines or Horizontal Separation
Buildings required to comply with Protection Level 1 shall be set back from property lines, or be provided with a horizontal separation in accordance with 7.3.4.2, by a distance of not less than 75 ft (23 m) and of not less than that required by Table 34.3.3.3.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounds over Barricaded Unbarricaded</td>
<td>Pounds Not Over Barricaded Unbarricaded</td>
<td>Barricaded Unbarricaded</td>
<td>Barricaded Unbarricaded</td>
<td>Barricaded Unbarricaded</td>
</tr>
<tr>
<td>0 ≥ 5</td>
<td>70 140 30 60</td>
<td>51 102 6 12</td>
<td>163 206 12 24</td>
<td>163 206 12 24</td>
</tr>
<tr>
<td>5 ≥ 10</td>
<td>90 180 35 70</td>
<td>64 128 8 16</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
</tr>
<tr>
<td>10 ≥ 20</td>
<td>110 220 45 90</td>
<td>81 162 10 20</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
</tr>
<tr>
<td>20 ≥ 30</td>
<td>125 250 50 100</td>
<td>93 186 11 22</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
</tr>
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<td>30 ≥ 40</td>
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<td>103 206 12 24</td>
<td>117 192 14 28</td>
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<td>40 ≥ 50</td>
<td>150 300 60 120</td>
<td>110 220 14 28</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
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<tr>
<td>50 ≥ 75</td>
<td>170 340 70 140</td>
<td>127 254 15 30</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
</tr>
<tr>
<td>75 ≥ 100</td>
<td>190 380 75 150</td>
<td>139 278 16 32</td>
<td>117 192 14 28</td>
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</tr>
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<td>150 300 18 36</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
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<tr>
<td>150 ≥ 200</td>
<td>235 470 95 190</td>
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<td>200 ≥ 250</td>
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<td>117 192 14 28</td>
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<tr>
<td>250 ≥ 300</td>
<td>270 540 110 220</td>
<td>201 402 24 48</td>
<td>117 192 14 28</td>
<td>117 192 14 28</td>
</tr>
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<td>117 192 14 28</td>
<td>117 192 14 28</td>
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<tr>
<td>400 ≥ 500</td>
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<td>117 192 14 28</td>
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</tr>
<tr>
<td>500 ≥ 600</td>
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<td>253 506 31 62</td>
<td>117 192 14 28</td>
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<tr>
<td>600 ≥ 700</td>
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</tr>
<tr>
<td>900 ≥ 1000</td>
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<td>117 192 14 28</td>
<td>117 192 14 28</td>
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<td>1000 ≥ 1200</td>
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<tr>
<td>1200 ≥ 1400</td>
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<td>336 672 41 82</td>
<td>117 192 14 28</td>
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<tr>
<td>1400 ≥ 1600</td>
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<tr>
<td>1600 ≥ 1800</td>
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<td>1800 ≥ 2000</td>
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<tr>
<td>2000 ≥ 2500</td>
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<tr>
<td>2500 ≥ 3000</td>
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<td>432 864 52 104</td>
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<tr>
<td>3000 ≥ 4000</td>
<td>635 1270 210 420</td>
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<tr>
<td>4000 ≥ 5000</td>
<td>685 1370 225 450</td>
<td>513 1026 61 122</td>
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</tbody>
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Table 34.3.3.3 The American Table of Distances for Storage of Explosives (Minimum Separation Distances for Buildings Containing Materials with Explosive Characteristics)

2006 Edition
<table>
<thead>
<tr>
<th>Quantity of Explosive Materials(^1,2,3,4)</th>
<th>Inhabited Buildings(^9)</th>
<th>Public Highways Class A to Class D(^11)</th>
<th>Passenger Railways — Public Highways with Traffic Volume of More than 3000 Vehicles/Day(^{9,11})</th>
<th>Separation of Magazines(^6,7,8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounds Over</td>
<td>Pounds Not Over</td>
<td>Barricaded(^6,7,8), Unbarricaded</td>
<td>Barricaded(^6,7,8), Unbarricaded</td>
<td>Barricaded(^6,7,8), Unbarricaded</td>
</tr>
<tr>
<td>5000 ≥ 6000</td>
<td>730 1460</td>
<td>235 470</td>
<td>546 1092</td>
<td>65 130</td>
</tr>
<tr>
<td>6000 ≥ 7000</td>
<td>770 1540</td>
<td>245 490</td>
<td>573 1146</td>
<td>68 136</td>
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<tr>
<td>7000 ≥ 8000</td>
<td>800 1600</td>
<td>250 500</td>
<td>600 1200</td>
<td>72 144</td>
</tr>
<tr>
<td>8000 ≥ 9000</td>
<td>835 1670</td>
<td>255 510</td>
<td>624 1248</td>
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<td>9000 ≥ 10000</td>
<td>865 1730</td>
<td>260 520</td>
<td>645 1290</td>
<td>78 156</td>
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<td>10000 ≥ 12000</td>
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<td>900 1800</td>
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<td>756 1512</td>
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<td>940 1880</td>
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<td>786 1572</td>
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<td>112 224</td>
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<td>360 720</td>
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<td>455 910</td>
<td>1173 2000</td>
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<tr>
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<td>470 940</td>
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<tr>
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<td>1730 2000</td>
<td>520 1040</td>
<td>1317 2000</td>
<td>170 340</td>
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<tr>
<td>85000 ≥ 90000</td>
<td>1760 2000</td>
<td>530 1060</td>
<td>1344 2000</td>
<td>175 350</td>
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<tr>
<td>90000 ≥ 95000</td>
<td>1790 2000</td>
<td>540 1080</td>
<td>1368 2000</td>
<td>180 360</td>
</tr>
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<td>95000 ≥ 100000</td>
<td>1815 2000</td>
<td>545 1090</td>
<td>1392 2000</td>
<td>185 370</td>
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<tr>
<td>110000 ≥ 120000</td>
<td>1855 2000</td>
<td>555 1110</td>
<td>1479 2000</td>
<td>205 410</td>
</tr>
<tr>
<td>120000 ≥ 130000</td>
<td>1875 2000</td>
<td>560 1120</td>
<td>1521 2000</td>
<td>215 430</td>
</tr>
<tr>
<td>130000 ≥ 140000</td>
<td>1890 2000</td>
<td>565 1130</td>
<td>1557 2000</td>
<td>225 450</td>
</tr>
<tr>
<td>140000 ≥ 150000</td>
<td>1900 2000</td>
<td>570 1140</td>
<td>1593 2000</td>
<td>235 470</td>
</tr>
<tr>
<td>150000 ≥ 160000</td>
<td>1935 2000</td>
<td>580 1160</td>
<td>1629 2000</td>
<td>245 490</td>
</tr>
<tr>
<td>160000 ≥ 170000</td>
<td>1965 2000</td>
<td>590 1180</td>
<td>1662 2000</td>
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<tr>
<td>170000 ≥ 180000</td>
<td>1990 2000</td>
<td>600 1200</td>
<td>1695 2000</td>
<td>265 530</td>
</tr>
<tr>
<td>180000 ≥ 190000</td>
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<td>605 1210</td>
<td>1725 2000</td>
<td>275 550</td>
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<tr>
<td>190000 ≥ 200000</td>
<td>2030 2030</td>
<td>610 1220</td>
<td>1755 2000</td>
<td>285 570</td>
</tr>
<tr>
<td>200000 ≥ 210000</td>
<td>2055 2055</td>
<td>620 1240</td>
<td>1782 2000</td>
<td>295 590</td>
</tr>
<tr>
<td>210000 ≥ 230000</td>
<td>2100 2100</td>
<td>635 1270</td>
<td>1836 2000</td>
<td>315 630</td>
</tr>
<tr>
<td>230000 ≥ 250000</td>
<td>2155 2155</td>
<td>650 1300</td>
<td>1890 2000</td>
<td>335 670</td>
</tr>
<tr>
<td>250000 ≥ 275000</td>
<td>2215 2215</td>
<td>670 1340</td>
<td>1950 2000</td>
<td>360 720</td>
</tr>
<tr>
<td>275000 ≥ 300000</td>
<td>2275 2275</td>
<td>690 1380</td>
<td>2000 2000</td>
<td>385 770</td>
</tr>
</tbody>
</table>

[495: Table 8.4.1] Note: For SI units, 1 ft = 0.305 m; 1 lb = 0.454 kg.

Superscript numerals refer to explanatory footnotes.

Explanatory Notes Essential to the Application of the American Table of Distances for Storage of Explosives

Note 1: “Explosive materials” means explosives, blasting agents, and detonators.

Note 2: “Explosives” means any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. A list of explosives determined to be within the coverage of Title 18, United States Code, Chapter 40, “Importation, Manufacture, Distribution and Storage of Explosive Materials,” is issued at least annually by the Director of the Bureau of Alcohol, Tobacco, and Firearms of the Department of the Treasury. For quantity and distance purposes, detonating cord of 50 grains per foot should be calculated as equivalent to 8 lb (3.7 kg) of high explosives per 1000 ft (305 m). Heavier or lighter core loads should be rated proportionately.

Note 3: “Blasting agents” means any material or mixture consisting of fuel and oxidizer, intended for blasting, and not otherwise defined as an explosive, provided that the finished product, as mixed for use or shipment, cannot be detonated by means of a No. 8 test blasting cap where unconfined.

Note 4: “Detonator” means any device containing any initiating or primary explosive that is used for initiating detonation. A detonator may not be permitted to contain more than 10 g of total explosives by weight, excluding ignition or delay charges. The term includes, but is not limited to,
electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps that use detonating cord, shock tube, or any other replacement for electric leg wires. All types of detonators in strengths through No. 8 cap should be rated at 1½ lb (0.7 kg) of explosives per 1000 caps. For strengths higher than No. 8 cap, the manufacturer should be consulted.

Note 5: “Magazine” means any building, structure, or container, other than an explosives manufacturing building, approved for the storage of explosive materials.

Note 6: “Natural barricade” means natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures that need protection cannot be seen from the magazine when the trees are bare of leaves.

Note 7: “Artificial barricade” means an artificial mound or revetted wall of earth of a minimum thickness of 3 ft (0.9 m).

Note 8: “Barricaded” means the effective screening of a building containing explosive materials from the magazine or another building, a railway, or a highway by a natural or an artificial barrier. A straight line from the top of any sidewalk of the building containing explosive materials to the curb line of any magazine or other building or to a point 12 ft (3.7 m) above the center of a railway or highway shall pass through such barrier.

Note 9: “Inhabited building” means a building regularly occupied in whole or part as a habitation for human beings, or any church, schoolhouse, railroad station, store, or other structure where people are accustomed to assemble, but does not include any building or structure occupied in connection with the manufacture, transportation, storage, or use of explosive materials.

Note 10: “Railway” means any steam, electric, or other railroad or railway that carries passengers for hire.

Note 11: “Highway” means any public street, public alley, or public road.

Note 12: Where two or more storage magazines are located on the same property, each magazine shall comply with the minimum distances specified from inhabited buildings, railways, and highways, and, in addition, they should be separated from each other by not less than the distances shown for “separation of magazines,” except that the quantity of explosive materials contained in detonator magazines shall govern with regard to the spacing of said detonator magazines from magazines containing other explosive materials. If any two or more magazines are separated from each other by less than the specified “separation of magazines” distances, such magazines, as a group, shall be considered as one magazine, and the total quantity of explosive materials stored in such group shall be treated as if stored in a single magazine located on the site of any magazine of the group, and shall comply with the minimum specified distances from other magazines, inhabited buildings, railways, and highways.

Note 13: Storage in excess of 300,000 lb (136,200 kg) of explosive materials in one magazine generally is not necessary for commercial enterprises. Storage in excess of 300,000 lb (136,200 kg) of high hazard contents is not required in a detached building.

Note 14: This table applies only to the manufacture and permanent storage of commercial explosive materials. It is not applicable to the transportation of explosives or any handling or temporary storage necessary or incident thereto. It is not intended to apply to bombs, projectiles, or other heavily encased explosives.

Note 15: Where a manufacturing building on an explosive materials plant site is designed to contain explosive materials, the building shall be located at a distance from inhabited buildings, public highways, and passenger railways in accordance with the American Table of Distances based on the maximum quantity of explosive materials permitted to be in the building at one time.

34.3.3.3.1 Explosives that are in accordance with NFPA 495 shall not be required to comply with 34.3.3.3.

34.3.3.3.2 Distances shall be measured from the perimeter wall to property lines, including those on a public way.

34.3.3.3.3 Quantities of explosives used in applying Table 34.3.3.3 shall be based on equivalent pounds (kilograms) of TNT.

34.3.3.4 Frangible Building. Frangible buildings complying with 7.4.1.3.5.3 shall not be required to be protected with an automatic sprinkler system. [ROC 218a]

34.3.4 Protection Level 2.

34.3.4.1 General. Buildings, or portions thereof, required to comply with Protection Level 2 shall comply with 34.3.4.2 and 34.3.4.5.

34.3.4.2 Exterior Wall Required.

34.3.4.2.1 Buildings, or portions thereof, required to comply with Protection Level 2 shall be located on property such that not less than 25 percent of the perimeter wall is an exterior wall.

34.3.4.2.2 Rooms utilized for the use, dispensing, mixing, and storage of flammable and combustible liquids having a floor area of not more than 500 ft² (46.5 m²) shall not be required to be located on the outer perimeter of the building where such rooms comply with NFPA 30.

34.3.4.3 Minimum Distance to Property Lines or Horizontal Separation.

34.3.4.3.1 Buildings, or portions thereof, required to comply with Protection Level 2 shall be set back from property lines, or be provided with a horizontal separation in accordance with 7.5.4.2, at the following distances:

(1) Not less than 30 ft (9.1 m) where the area of the occupancy exceeds 1000 ft² (93 m²) and a detached building is not required.

(2) Not less than 50 ft (15.2 m) where a detached building is required by Table 34.3.4.1.

(3) Not less than the distances required by Table 34.3.3.3 for buildings containing materials with explosive characteristics.

34.3.4.3.2 Distances shall be measured from the walls enclosing the Protection Level 2 area to property lines, including those on a public way, or in accordance with 7.3.4.2 for buildings on the same lot.

34.3.4.4 Detached Building Required.

34.3.4.4.1 Buildings required to comply with Protection Level 2 and containing quantities of high hazard contents exceeding the quantity limits set forth in Table 34.3.4.4.1 shall be used for no other purpose; shall not exceed one story in height; and shall be without basements, crawl spaces, or other under-floor spaces.

34.3.4.4.2 Buildings that contain high hazard Level 2 contents also shall be permitted to contain high hazard Level 3 or high hazard Level 4 contents, provided that the materials are separated as otherwise required by the provisions of this Code and NFPA 1.

34.3.4.4.3 The roof of buildings specified in 34.3.4.4.1 shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature.
Table 34.3.4.4.1 High Hazard Level 2 and Level 3 Materials—Required Detached Storage

<table>
<thead>
<tr>
<th>Material</th>
<th>Maximum Quantity Without a Detached Storage Building</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solids and Liquids (tons)</td>
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<tr>
<td>Oxidizers</td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>1,200</td>
</tr>
<tr>
<td>Class 2</td>
<td>2,000</td>
</tr>
<tr>
<td>Organic peroxides</td>
<td></td>
</tr>
<tr>
<td>Class II</td>
<td>25</td>
</tr>
<tr>
<td>Class III</td>
<td>50</td>
</tr>
<tr>
<td>Unstable (reactive)</td>
<td>Class 3, nondetonable</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
</tr>
<tr>
<td></td>
<td>Class 3, deflagrating</td>
</tr>
<tr>
<td>Water-reactive materials</td>
<td>Class 3</td>
</tr>
<tr>
<td></td>
<td>Class 2,</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrophoric gases</td>
<td>NA</td>
</tr>
</tbody>
</table>

For SI units, 1 ton = 0.9 met tons; 1 ft³ = 0.0283 m³.
NA: Not applicable.

34.3.4.5 Water-Reactive Materials.

34.3.4.5.1 Rooms or areas containing Class 2 or Class 3 water-reactive materials shall be resistant to water penetration.

34.3.4.5.2 Piping for conveying water, other than fire protection piping, shall not route over or through areas containing Class 2 or Class 3 water-reactive materials, unless isolated by approved liquid-tight construction.

34.3.5 Protection Level 3.

34.3.5.1 General. Buildings, or portions thereof, required to comply with Protection Level 3 shall comply with 34.3.2 and 34.3.5.2 through 34.3.5.7.

34.3.5.2 Exterior Wall Required.

34.3.5.2.1 Buildings, or portions thereof, required to comply with Protection Level 3 shall be located on property such that not less than 25 percent of the perimeter wall is an exterior wall.

34.3.5.2.2 Rooms utilized for the use, dispensing, mixing, and storage of flammable and combustible liquids having a floor area of not more than 500 ft² (46.5 m²) shall not be required to be located on the outer perimeter of the building where such rooms are in accordance with NFPA 30.

34.3.5.3 Minimum Distance to Property Lines or Horizontal Separation.

34.3.5.3.1 Buildings, or portions thereof, required to comply with Protection Level 3 shall be set back from property lines, or be provided with a horizontal separation in accordance with 7.3.4.2, at the following distances:

(1) Not less than 30 ft (9.1 m) where the area of the occupancy exceeds 1000 ft² (93 m²) and a detached building is not required
(2) Not less than 50 ft (15.2 m) where a detached building is required by Table 34.3.4.4.1
(3) Not less than the distances required by Table 34.3.3.3 for buildings containing materials with explosive characteristics

34.3.5.3.2 Distances shall be measured from the walls enclosing the Protection Level 3 area to property lines, including those on a public way, or in accordance with 7.3.4.2 for buildings on the same lot.

34.3.5.4 Detached Building Required.

34.3.5.4.1 Buildings required to comply with Protection Level 3 and containing quantities of high hazard contents exceeding the quantity limits set forth in Table 34.3.4.4.1 shall be used for no other purpose; shall not exceed one story in height; and shall be without basements, crawl spaces, or other under-floor spaces.

34.3.5.4.2 Buildings that contain high hazard Level 3 contents also shall be permitted to contain high hazard Level 2 or high hazard Level 4 contents, provided that the materials are separated as otherwise required by the provisions of this Code and NFPA 1.

34.3.5.5 Detached Unprotected Building. Where acceptable to the AHJ, based on a determination that a protected building is not practical and an assessment of acceptable risk, storage buildings required to comply with Protection Level 3 shall be permitted without fire protection systems when in accordance with the following: [ROC 651]

(1) The building or portions thereof shall have a horizontal separation of at least 200 ft, from exposed Business, Industrial, Mercantile and Storage occupancies on the same lot and from any property line that is or can be built upon. Where protection for exposures is provided in accordance with part (9), the horizontal separation shall be at least 100 ft.
(2) The building or portions thereof shall have a horizontal separation of at least 1000 ft, from exposed occupancies other than Business, Industrial, Mercantile and Storage on the same lot and from any property line that is or can be built upon.
(3) The building shall not exceed one-story in height.
(4) The building shall not have basements, crawl spaces, or other under-floor accessible spaces.
(5) Egress from the building shall not exceed 50 percent of the distances listed in Table 34.3.2.4.1, measured as required in 11.6.2 and in compliance with 34.3.2.4.2 through 34.3.2.4.5.
(6) The building shall comply with the requirements in 34.3.2.2 for building height, 34.3.2.5 for ventilation, 34.3.2.6 for explosion control, 34.3.2.7 for standby and emergency power, 34.3.2.9 for floor construction, and 34.3.2.10 for unprotected vertical openings.
(7) Spill control shall comply with 34.3.2.8.2.
(8) Secondary containment shall comply with 34.3.2.8.3 except that containment for fire protection water shall not be required if the building is not provided with a fire protection sprinkler system.
(9) When credit is taken for protection for exposures in parts (1) or (2), protection of exposures shall consist of fire protection for structures on property adjacent to the stor-
34.3.5.6 Roofs. The roofs of buildings specified in 34.3.5.4 and 34.3.5.5 shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature.

34.3.5.7 Water-Reactive Materials.

34.3.5.7.1 Rooms or areas containing Class 2 or Class 3 water-reactive materials shall not be located in the basement.

34.3.5.7.2 Piping for conveying water, other than fire protection piping, shall not route over or through areas containing Class 2 or Class 3 water-reactive materials, unless isolated by approved liquid-tight construction.

34.3.5.8 Class I, II, and IIIA Flammable and Combustible Liquids.

34.3.5.8.1 Rooms used for the storage of Class I flammable liquids shall not be located in the basement.

34.3.5.8.2 Rooms in excess of 500 ft² (46.5 m²) shall have at least one exterior door approved for fire department access.

34.3.6 Protection Level 4. Buildings, or portions thereof, required to comply with Protection Level 4 shall comply with 34.3.2, 34.3.6.1, and 34.9.6.2.

34.3.6.1 Gas Rooms.

34.3.6.1.1 Gas rooms required by this Code, NFPA 1, or NFPA 55 for storage of toxic or highly toxic gases shall be separated from other areas by not less than a 2-hour fire barrier wall and horizontal assembly, or both, where the area is 300 ft² (27.9 m²) or more and by not less than 1-hour fire resistance construction where the area is less than 300 ft² (27.9 m²).

34.3.6.1.2 Exhaust ventilation for gas rooms shall be designed to operate at a negative pressure in relation to the surrounding areas and shall direct the exhaust ventilation to an exhaust system.

34.3.6.2 Highly Toxic Solids and Liquids. Highly toxic solids and liquids not stored in approved hazardous materials storage cabinets shall be isolated from other hazardous materials storage by a 1-hour fire barrier.

34.3.7 Protection Level 5.

34.3.7.1 General. In addition to the requirements set forth elsewhere in this Code, buildings, and portions thereof, required to comply with Protection Level 5 shall comply with 34.3.2, 34.3.7.1, 34.3.7.2, 34.3.7.3, NFPA 1, and NFPA 318, Standard for the Protection of Semiconductor Fabrication Facilities.

34.3.7.1.1 Location of Semiconductor Manufacturing Operations. Semiconductor manufacturing operations shall be conducted in fabrication areas.

34.3.7.1.2 Transporting Hazardous Production Materials to Fabrication Areas.

34.3.7.1.2.1 Hazardous production materials shall be transported from delivery locations or storage areas to fabrication areas through enclosed piping or tubing systems that comply with NFPA 1 or through service corridors complying with 34.3.7.1.2.2(A).

34.3.7.1.2.2 In existing buildings, where an existing fabrication area is altered or modified, hazardous production materials shall also be permitted to be transported from delivery locations or storage areas to fabrication areas through exit access corridors complying with 34.3.7.2.2, subject to the conditions described in 34.3.7.1.2.2(A) through 34.3.7.1.2.2(C).

(A) Exit access corridors adjacent to the fabrication area where the alteration work is to be done shall be fire resistive for a length not less than the following:

(1) Length of the common wall adjoining both the corridor and the fabrication area

(2) Distance to the point of entry of hazardous production material (HPM) into the exit access corridor serving that fabrication area.

(B) An emergency alarm system complying with 34.3.7.3.6 shall be provided.

(C) Requirements for pass-throughs shall be as follows:

(1) Self-closing doors having a fire protection rating of 1 hour or more shall separate pass-throughs from existing exit access corridors.

(2) Pass-throughs shall be constructed as required for the exit access corridor.

(3) Pass-throughs shall be protected by an approved automatic fire extinguishing system.

34.3.7.2 Building Features.

34.3.7.2.1 Fabrication Areas.

34.3.7.2.1.1 Location. Fabrication areas shall be located such that occupied levels are at or above the first story.

34.3.7.2.1.2 Hazardous Materials Quantity Limits.

(A) The aggregate quantity of hazardous materials in storage and in use within a single fabrication area shall not exceed one of the following, whichever is greater:

(1) Quantities set forth in Table 34.3.7.2.1.2(A)

(2) Maximum allowable quantities per control area set forth in Table 34.1.3.1

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Solids (lb/ft²)</th>
<th>Liquids (gal/ft²)</th>
<th>Gas (ft³ @ NTP/ ft²)</th>
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<tr>
<td>Combustible liquid</td>
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<tr>
<td>IIA</td>
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<tr>
<td>III-B</td>
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<td>Combination Classes I, II and IIIA</td>
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<thead>
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<th>Hazard Category</th>
<th>Solids (lb/ft²)</th>
<th>Liquids (gal/ft²)</th>
<th>Gas (ft³ @ NTP/ ft²)</th>
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<td>See footnote 3</td>
<td>See footnote 3</td>
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<tr>
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<td>NA</td>
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<tr>
<td>Liquefied</td>
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### Table 34.3.7.2.1.2(A) Continued

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<tr>
<th>Hazard Category</th>
<th>Solids (lb/ft²)</th>
<th>Liquids (gal/ft²)</th>
<th>Gas (ft³ @ NTP/ ft²)</th>
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<tr>
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<td>0.003</td>
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<td>I</td>
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<td>NL</td>
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<td>0.025</td>
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<tr>
<td>1</td>
<td>NL</td>
<td>NL</td>
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</tr>
<tr>
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<td>NL</td>
<td>NL</td>
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<tr>
<td>Highly toxic</td>
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</tr>
<tr>
<td>Toxics</td>
<td>NL</td>
<td>NL</td>
<td>See footnote 2</td>
</tr>
</tbody>
</table>

For SI units, 1 lb = 0.454 kg; 1 ft² = 0.093 m²; 1 ft³ = 0.0283 m³. NTP = Normal temperature and pressure. NA = Not applicable. NL = Quantity of hazardous materials in a single fabrication area not limited.

1 Hazardous materials within piping are not permitted to be included in the calculated quantities.

2 The aggregate quantity of flammable, pyrophoric, toxic, and highly toxic gases is not permitted to exceed 9000 ft³ (254.9 m³) at NTP.

3 The quantity of hazardous materials in a single fabrication is not permitted to exceed maximum allowable quantities per control area in Table 34.1.3.1.

4 The aggregate quantity of pyrophoric gases in the building shall not exceed quantity limits set forth in Table 34.3.4.4.1.

(B) Storage of hazardous materials classified as hazardous production materials shall be further limited such that the quantity stored within a single fabrication area does not exceed the maximum allowable quantities per control area set forth in Table 34.1.3.1.

34.3.7.2.1.3 Fire-Resistive Separation. Fabrication areas shall be separated from other parts of the building, including exit access corridors, by not less than 1-hour fire resistance-rated assemblies.

(A) Doors within the assemblies specified in 34.3.7.2.1.3, including doors to corridors, shall be self-closing fire door assemblies with a ¾-hour or greater fire resistance rating.

(B) Windows between fabrication areas and exit access corridors shall be permitted to be fixed glazing listed and labeled for a fire protection rating of at least ¾ hour.

(C) Where it is necessary to construct multiple adjoining fabrication areas to comply with the hazardous materials quantity limits specified in 34.3.7.2.1.2(A), 1-hour fire resistance-rated assemblies shall be provided to separate the fabrication areas from each other in accordance with Chapter 7.

34.3.7.2.1.4 Floors.

(A) Except for surfacing, floors within fabrication areas shall be of noncombustible construction.

(B) Floors of fabrication areas separating fabrication areas from other uses shall be liquid-tight.

34.3.7.2.1.5 Vertical Openings. Openings through floors of fabrication areas shall be permitted to be unprotected in accordance with 8.12.4.2 where the interconnected levels are used solely for mechanical equipment directly related to such fabrication areas.

(A) Mechanical, duct, and piping penetrations within a fabrication area shall not extend through more than two floors.

(B) The annular space around equipment passing through the penetrations shall be sealed at the floor level to restrict the movement of air.

(C) The fabrication area, including levels interconnected with ductwork and piping, shall be regulated as a single conditioned environment.

34.3.7.2.1.6 Egress from Fabrication Areas. In areas required to comply with Protection Level 5, the travel distance within a fabrication area to an exterior exit door, an exit access corridor, a horizontal exit, an exit passageway, or an enclosed exit stairway shall not exceed 200 ft (61 m).

34.3.7.2.2 Exit Access Corridors.

34.3.7.2.2.1 Exit access corridors shall be separated from fabrication areas as specified in 34.3.7.2.1.3.

34.3.7.2.2.2 Exit access corridors shall not contain HPM and shall not be used for transporting HPM, except through closed piping systems complying with 34.3.7.3.1.3.

34.3.7.2.3 Service Corridors. Service corridors shall be permitted to be regulated as part of the Protection Level 5 area.
34.3.7.2.3.1 Minimum Width. The clear width of a service corridor shall not be less than 5 ft (1525 mm) and shall not be less than 33 in. (825 mm) wider than the widest cart or truck used in the corridor.

34.3.7.2.3.2 Fire-Resistive Separation. Service corridors shall be separated from exit access corridors as required by 34.3.7.2.1.3.

34.3.7.2.3.3 Exiting.
(A) Service corridors shall not be used as a required exit access corridor.
(B) Service corridors shall be provided with two or more exits, and not more than one-half of the required number of exits shall lead to the fabrication area.
(C) The travel distance within a service corridor to an exit or to a door into a fabrication area shall not exceed 75 ft (23 m).
(D) Dead ends shall not exceed 4 ft (1220 mm).
(E) Doors from service corridors shall swing in the direction of exit travel and shall be self-closing.

34.3.7.2.4 Storage Areas for Hazardous Production Materials.

34.3.7.2.4.1 General.
(A) Storage of HPM in fabrication areas in quantities not exceeding the limits set forth in Table 34.1.3.1 shall be within approved or listed storage cabinets, within gas cabinets, or within a workstation.
(B) The storage of hazardous production in quantities greater than those specified in Table 34.1.3.1 shall be in gas rooms complying with 34.3.6.1, or HPM rooms complying with 34.3.7.2.4.2, as appropriate for the materials stored.
(C) The storage of hazardous materials other than HPM shall be in accordance with other applicable provisions of this Code and NFPA 1.

34.3.7.2.4.2 HPM Rooms.
(A) HPM rooms shall be constructed as required for the applicable protection level, based on the classification of hazardous materials stored therein.
(B) HPM rooms shall be separated from other areas by not less than a 2-hour fire barrier wall and horizontal assembly, or both, where the area is 300 ft² (27.9 m²) or more and by not less than 1-hour fire resistance construction where the area is less than 300 ft² (27.9 m²).
(C) When two means of egress are required by 34.3.2.4.3 for an HPM room, or gas room, one means of egress shall be directly to the outside of the building.
(D) Except for surfacing, floors of HPM rooms shall be of noncombustible liquid-tight construction.
(E) Raised grating over floors shall be of noncombustible materials.

34.3.7.2.4.3 Doors. Door openings to HPM rooms and gas rooms that penetrate a fire barrier wall, including doors to corridors, shall be self-closing fire door assemblies having a fire protection rating of not less than ½ hour.

34.3.7.2.4.4 Ventilation. Ventilation for HPM rooms and gas rooms shall comply with 34.3.2.5.

34.3.7.2.4.5 Emergency Alarm System. Emergency alarms for HPM rooms and gas rooms shall comply with 34.3.7.3.6.2.

34.3.7.2.4.6 Separation of HPM. Hazardous production materials stored in HPM rooms and gas rooms shall be separated from incompatible materials in accordance with Table 34.3.7.2.4.6.

34.3.7.2.5 Emergency Control Station.

34.3.7.2.5.1 An emergency control station shall be provided on the premises at an approved location, outside of the fabrication area, and shall be continuously staffed by trained personnel.

34.3.7.2.5.2 The emergency control station shall receive signals from emergency equipment and alarm and detection systems.

34.3.7.2.5.3 The emergency equipment and alarm and detection systems specified in 34.3.7.2.5.2 shall include, but not necessarily be limited to, the following where such equipment or systems are required to be provided in 34.3.7 or elsewhere in this Code:
(1) Automatic fire sprinkler system alarm and monitoring systems
(2) Manual fire alarm systems
(3) Emergency alarm systems
(4) Continuous gas detection systems
(5) Smoke detection systems
(6) Emergency power systems

34.3.7.3 Systems and Equipment.

34.3.7.3.1 Piping and Tubing.

34.3.7.3.1.1 General. Hazardous production materials piping and tubing shall comply with 34.3.7.3.1.2 and 34.3.7.3.1.3 and shall be installed in accordance with ASME B31.3, Process Piping, and NFPA 1.

34.3.7.3.1.2 Location of HPM Supply Piping and Tubing in Service Corridors. Hazardous production materials supply piping or tubing in service corridors shall be exposed to view.

34.3.7.3.1.3 Installation of HPM Piping and Tubing in Exit Access Corridors and Above Other Occupancies. The installation of HPM piping and tubing within the space defined by the walls of exit access corridors and the floor or roof above, or in concealed spaces above other occupancies, shall be in accordance with the following, except for transverse crossings of the corridors by supply piping that is enclosed within a ferrous pipe or tube for the width of the corridor:
(1) Automatic sprinklers shall be installed within the space, unless the space is less than 6 in. (152 mm) in the least dimension.
(2) Ventilation with not less than six air changes per hour shall be provided, and the space shall not be used to convey air from any other area.
(3) Where the piping or tubing is used to transport HPM liquids, a receptor that meets the following criteria shall be installed below such piping or tubing:
(a) The receptor shall be designed to collect any discharge or leakage and drain it to an approved location.
(b) The 1-hour enclosure shall not be used as part of the receptor.
(4) HPM supply piping and tubing and HPM nonmetallic waste lines shall meet the following criteria:
(a) The lines shall be separated from the exit access corridor and from areas not complying with Protection Level 5 by construction as required for walls or partitions that have a fire resistance rating of not less than 1 hour.
(b) Where gypsum wallboard is used, joints on the piping side of the enclosure shall not be required to be taped, provided the joints occur over framing members.
(c) Access openings into the enclosure shall be protected by approved fire-rated assemblies.

(5) Readily accessible manual or automatic remotely activated, fail-safe emergency shutoff valves shall be installed on piping and tubing other than waste lines at the following locations:
(a) At branch connections into the fabrication area
(b) At entries into exit access corridors

Table 34.3.7.2.4.6 Minimum Separation of HPM

<table>
<thead>
<tr>
<th>Material</th>
<th>Highly Toxic</th>
<th>Toxic</th>
<th>Acid</th>
<th>Base</th>
<th>Flammable</th>
<th>Oxidizer</th>
<th>Water-reactive</th>
<th>Pyrophoric</th>
<th>Unstable (reactive)</th>
<th>Organic Peroxide</th>
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<tr>
<td>Highly Toxic</td>
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<td>S</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>NR</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
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<td>S</td>
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<td>S</td>
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<td>*</td>
<td>S</td>
<td>S</td>
<td>R</td>
<td>S</td>
<td>S</td>
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<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>R</td>
<td>S</td>
<td>S</td>
<td>S</td>
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<td>S</td>
<td>S</td>
<td>S</td>
<td>R</td>
<td>S</td>
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<tr>
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<td>S</td>
<td>S</td>
<td>*</td>
<td>S</td>
<td>S</td>
<td></td>
<td></td>
<td>S</td>
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<tr>
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<td>S</td>
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<td>S</td>
<td>S</td>
<td></td>
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</tbody>
</table>

NR: Not required.
1 hr: 1-hour fire resistance–rated construction.
S: Separation by a partial noncombustible partition extending not less than 18 in. (457 mm) above and to the sides of the stored material.
R: Separate rooms, which are not required to have a fire resistance rating.

Note: HPM gases are required to be separated from HPM liquids and solids by 1-hour fire resistance–rated construction or are required to be kept in approved gas cabinets. HPM gases also are required to be separated from gases in other HPM hazard categories as required by Table 34.3.7.2.4.6, or are required to be kept in approved gas cabinets.

* Separation by not less than 20 ft (6 m) is permitted in lieu of a noncombustible partition.

34.3.7.3.3 Ventilation Systems.
34.3.7.3.3.1 Fabrication Area. Mechanical exhaust ventilation shall be provided throughout the fabrication area at the rate of not less than 1 ft³/min/ft² (0.044 L/s/m²) of floor area.

(A) The use of recirculated air shall be permitted to meet the average and minimum number of air changes specified in 34.3.7.3.3.2.

(B) The exhaust air duct system of one fabrication area shall not connect to another duct system outside that fabrication area within the building.

(C) Ventilation shall be provided to capture and exhaust fumes and vapors at workstations.

(D) Two or more operations at a workstation shall not be connected to the same exhaust system where either one or the combination of the substances removed could constitute a fire, an explosion, or a hazardous chemical reaction within the exhaust duct system.

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Exhaust ducts shall be mechanically ventilated at 1 ft³/min/ft² (0.044 L/s/m²) or six air changes per hour, whichever is greater.

Fire dampers shall not be installed in exhaust ducts.

The area below the raised floor in a fabrication area and the interstitial spaces above a fabrication area, used solely for building or process systems directly related to the level above or below a fabrication area, shall not be considered a plenum.

Service corridors, HPM rooms, and gas rooms shall not be considered a plenum. The area below the raised floor in a fabrication area and any space defined by the walls of an exit access corridor and the floor or roof above the exit access corridor, a continuous gas detection system shall be provided where piping is located and in the exit access corridor.

Emergency alarm-initiating devices shall be installed in exit access corridors and service corridors at not more than 150 ft (45.7 m) intervals and at each exit and exit access doorway.

A continuous gas detection system shall be provided in the locations described in 34.3.7.3.4.1 through 34.3.7.3.4.4 for HPM gases when the physiological warning properties of the gas are at a higher level than the accepted permissible exposure limit (PEL) for the gas and for flammable gases.

A continuous gas detection system shall be provided at locations in fabrication areas where gas is used.

A continuous gas detection system shall be provided in HPM rooms that do not comply with the requirements for gas rooms where gas is used in the room.

A continuous gas detection system shall be provided in gas cabinets or exhausted enclosures where gases are located in gas cabinets or exhausted enclosures.

Where gases are transported in piping placed within the space defined by the walls of an exit access corridor and the floor or roof above the exit access corridor, a continuous gas detection system shall be provided where piping is located and in the exit access corridor.

A continuous gas detection system shall not be required for occasional transverse crossings of the corridors by supply piping that is enclosed in a ferrous pipe or tube for the width of the corridor.

The continuous gas detection system shall be capable of monitoring the room, area, or equipment in which the gas is located at or below the PEL or ceiling limit (CL) of the gas for which detection is provided.

For flammable gases, the monitoring detection threshold level shall be vapor concentrations in excess of 20 percent of the lower explosive limit (LEL).

Monitoring for highly toxic and toxic gases shall also comply with the requirements in NFPA 1 for highly toxic and toxic material.

The gas detection system shall be provided with an emergency alarm complying with 34.3.7.3.6.3.

The gas detection system shall automatically close the shutoff valve at the source on gas supply piping and tubing related to the system being monitored for which gas is detected when a short-term hazard condition is detected.

When the gas detection sampling point initiating the gas detection system alarm is at the use location or within a gas valve enclosure of a branch line downstream of a piping distribution manifold, the shutoff valve for the branch line located in the piping distribution manifold enclosure shall automatically close.

Automatic closure of shutoff valves shall comply with the following:

1. Where the gas detection sampling point initiating the gas detection system alarm is within a gas cabinet or exhausted enclosure, the shutoff valve in the gas cabinet or exhausted enclosure for the specific gas detected shall automatically close.
2. Where the detection sampling point initiating the gas detection system alarm is within a room, and compressed gas containers are not in gas cabinets or an exhausted enclosure, the shutoff valves on all gas lines for the specific gas detected shall automatically close.
3. Where the gas detection sampling point initiating the gas detection system alarm is within a piping distribution manifold enclosure, the shutoff valve for the compressed gas container of specific gas detected supplying the manifold shall automatically close.

A manual fire alarm system shall be provided throughout buildings required to comply with Protection Level 5.

The fire alarm system shall be designed and installed in accordance with NFPA 72, National Fire Alarm Code.

Emergency alarm-initiating devices shall be installed in exit access corridors and service corridors at not more than 150 ft (45.7 m) intervals and at each exit and exit access doorway.

An approved manual fire alarm system shall be provided for exit access corridors and service corridors.

Emergency alarm-initiating devices shall be installed in exit access corridors and service corridors at not more than 150 ft (45.7 m) intervals and at each exit and exit access doorway.

An approved emergency alarm system shall be provided for HPM rooms and gas rooms.

Emergency alarm-initiating devices shall be installed outside of each interior exit access door for HPM rooms and gas rooms.

Gas detection systems shall initiate an alarm when a short-term hazard condition is detected.

The local alarm shall be both visual and audible and shall provide warning both inside and outside the area where the gas is detected.
34.3.7.3.6.4 **Alarm-Initiating Devices.** An approved emergency telephone system, a local alarm manual pull station, or other approved alarm-initiating devices shall be permitted to be used as emergency alarm-initiating devices.

34.3.7.3.6.5 **Alarm Notification.** Activation of the emergency alarm system shall sound a local alarm and notify the emergency control station.

34.3.7.3.7 **Emergency Power System.** An emergency power system shall be provided for buildings, or portions thereof, required to comply with Protection Level 5 where required in 34.3.7.3.7.2.

34.3.7.3.7.1 **Design.** The emergency power system shall be designed to automatically supply power to required electrical systems when the normal electrical supply system is interrupted.

34.3.7.3.7.2 **Where Required.** Emergency power shall be provided for electrically operated equipment and connected control circuits for the following systems:

1. HPM exhaust ventilation systems
2. HPM gas cabinet ventilation systems
3. HPM exhausted enclosure ventilation systems
4. HPM gas room ventilation systems
5. HPM gas detection systems
6. Emergency alarm systems
7. Electrically operated systems required elsewhere in this Code applicable to the use, storage, or handling of HPM

34.3.7.3.7.3 **Emergency Power for Exhaust Ventilation Systems.** Exhaust ventilation systems shall be permitted to be designed to operate at not less than one-half the normal fan speed on the emergency power system where it is demonstrated that the level of exhaust will maintain a safe atmosphere.

34.3.7.3.7.4 **Power for detection, alarm, and communication systems.** Power for detection, alarm, and communication systems shall be in accordance with NFPA 72, *National Fire Alarm Code.*

34.3.7.3.8 **Fire Sprinkler System Protection in Exhaust Ducts for HPM.**

34.3.7.3.8.1 **General.** Automatic fire sprinkler system protection shall be provided in exhaust ducts conveying vapors, fumes, mists, or dusts generated from HPM in accordance with 34.3.7.3.8.2 through 34.3.7.3.8.4 and the *Uniform Mechanical Code,* as referenced in Chapter 50.

34.3.7.3.8.2 **Metallic Exhaust Ducts and Noncombustible, Nonmetallic Exhaust Ducts.** Automatic fire sprinkler system protection shall be provided in metallic exhaust ducts and noncomontible, nonmetallic exhaust ducts where all of the following conditions apply:

1. Where the largest cross-sectional diameter is equal to or greater than 10 in. (254 mm) or the cross-sectional cylindrical or rectangular area is greater than or equal to 80 in.² (516 cm²). [ROC 655]
2. Where the ducts are within the building
3. Where the ducts are conveying flammable vapors or fumes

34.3.7.3.8.3 **Combustible, Nonmetallic Exhaust Ducts.** Automatic fire sprinkler system protection shall be provided in combustible, nonmetallic exhaust ducts where the largest cross-sectional diameter of the duct is equal to or greater than 10 in. (254 mm) or the cross-sectional cylindrical or rectangular area is greater than or equal to 80 in.² (516 cm²). [ROC 656]

(A) Ducts that are listed or approved for applications without automatic fire sprinkler system protection shall not be required to comply with 34.3.7.3.8.3.

(B) Ducts that are not more than 12 ft (3657 mm) in length and installed below ceiling level shall not be required to comply with 34.3.7.3.8.3.

34.3.7.3.8.4 **Automatic Sprinkler Locations.**

(A) Sprinklers system shall be installed at 12 ft (3657 mm) intervals in horizontal ducts and at changes in direction.

(B) In vertical ducts, sprinklers shall be installed at the top and at alternate floor levels.