

Report of the Committee on**Automatic Sprinkler Systems (AUT-AAC)****Technical Correlating Committee****John G. O'Neill, Chair**

The Protection Engineering Group, PC, VA [SE]

Christian Dubay, Nonvoting Secretary
National Fire Protection Association, MA

Jose R. Baz, International Engineered Systems Limited, Incorporated, FL [M]
Rep. NFPA Latin American Section

Kerry M. Bell, Underwriters Laboratories Incorporated, IL [RT]

Russell P. Fleming, National Fire Sprinkler Association, NY [M]

Scott T. Franson, The Viking Corporation, MI [M]

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

James B. Harmes, Grand Blanc Fire Department, MI [E]
Rep. International Association of Fire Chiefs

Luke Hilton, Liberty Mutual Property, FL [I]

Alex Hoffman, Viking Fire Protection Incorporated, Canada [IM]
Rep. Canadian Automatic Sprinkler Association

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

Sultan M. Javeri, SC Engineering, France [IM]

Andrew Kim, National Research Council of Canada, Canada [RT]

Joe W. Noble, Clark County Fire Department, NV [E]
Rep. International Fire Marshals Association

Eric Packard, Local 669 JATC Education Fund, MD [L]
Rep. United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the US & Canada

Chester W. Schirmer, Schirmer Engineering Corporation, NC [I]

Robert D. Spaulding, FM Global, MA [I]
Rep. FM Global

Lynn K. Underwood, Axis US Property, IL [I]

Alternates

Donald "Don" D. Becker, RJC & Associates, Incorporated, MO [IM]
(Alt. to Roland J. Huggins)

George Capko, Jr., FM Global, MA [I]
(Alt. to Robert D. Spaulding)

Randall S. Chaney, Liberty Mutual Property, CA [I]
(Alt. to Luke Hilton)

Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
(Alt. to Russell P. Fleming)

George E. Laverick, Underwriters Laboratories Incorporated, IL [RT]
(Alt. to Kerry M. Bell)

Donald C. Moeller, The RJA Group, Incorporated, CA [SE]
(Alt. to Raymond A. Grill)

Garner A. Palenske, Schirmer Engineering Corporation, CA [I]
(Alt. to Chester W. Schirmer)

Donato A. Pirro, Electro Sistemas De Panama, S.A., Panama [M]
(Alt. to Jose R. Baz)

J. Michael Thompson, The Protection Engineering Group, PC, VA [SE]
(Alt. to John G. O'Neill)

Nonvoting

Antonio C. M. Braga, FM Global, CA [I]
Rep. TC on Hanging & Bracing of Water-Based Systems

Edward K. Budnick, Hughes Associates, Incorporated, MD [SE]
Rep. TC on Sprinkler System Discharge Criteria

Robert M. Gagnon, Gagnon Engineering, MD [SE]
Rep. TC on Foam-Water Sprinklers

William E. Koffel, Koffel Associates, Incorporated, MD [SE]
Rep. Safety to Life Correlating Committee

Kenneth W. Linder, GE Global Asset Protection Services, CT [I]
Rep. TC on Sprinkler System Installation Criteria

Daniel Madrzykowski, US National Institute of Standards & Technology, MD [RT]
Rep. TC on Residential Sprinkler Systems

J. William Sheppard, General Motors Corporation, MI [U]
Rep. TC on Private Water Supply Piping Systems

John J. Walsh, UA Joint Apprenticeship Committee, MD [SE]
(Member Emeritus)

Committee Scope: This Committee shall have overall responsibility for documents that pertain to the criteria for the design and installation of automatic, open and foam-water sprinkler systems including the character and adequacy of water supplies, and the selection of sprinklers, piping, valves, and all materials and accessories. This Committee does not cover the installation of tanks and towers, nor the installation, maintenance, and

use of central station, proprietary, auxiliary, and local signaling systems for watchmen, fire alarm, supervisory service, nor the design of fire department hose connections.

Report of the Committee on**Hanging and Bracing of Water-Based Fire****Protection Systems (AUT-HBS)****Antonio C. M. Braga, Chair**
FM Global, CA [I]
Rep. FM Global**Samuel S. Dannaway, Secretary**
S. S. Dannaway Associates, Incorporated, HI [SE]

James B. Biggins, Marsh Risk Consulting, IL [I]

Richard W. Bonds, Ductile Iron Pipe Research Association, AL [M]

James Dockrill, Troy Sprinkler Limited, Canada [IM]
Rep. Canadian Automatic Sprinkler Association

Daniel C. Duggan, Fire Sprinkler Design, MO [M]

Thomas J. Forsythe, Hughes Associates, Incorporated, CA [SE]

John D. Gillengerten, State of California, CA [E]
Rep. Building Seismic Safety Council/Code Resource Support Committee

Luke Hilton, Liberty Mutual Property, FL [I]
Rep. Property Casualty Insurers Association of America

Terry Holst, Tyco/Grinnell Fire Protection Systems Company, CA [M]
Rep. National Fire Sprinkler Association

Tina Marie King, GE Global Asset Protection Services, CA [I]

Kraig Kirschner, AFCON, CA [M]

Alan R. Laguna, Merit Sprinkler Company, Incorporated, LA [IM]

George E. Laverick, Underwriters Laboratories Incorporated, IL [RT]

Philip D. LeGrone, Risk Management Solutions, Incorporated, TN [SE]

Michael J. Madden, Gage-Babcock & Associates, Incorporated, CA [SE]

Wayne M. Martin, Wayne Martin & Associates Incorporated (WMA), CA [SE]

J. Scott Mitchell, American Fire Sprinkler Association, TX [M]

Donald C. Moeller, The RJA Group, Incorporated, CA [SE]

David S. Mowrer, HSB Professional Loss Control, TN [I]

Randy R. Nelson, PE, VFS Fire & Security Services, CA [IM]
Rep. American Fire Sprinkler Association

Janak B. Patel, Bechtel Savannah River Company, GA [U]

Michael A. Rothmier, UA Joint Apprenticeship Committee, CO [L]
Rep. United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the US & Canada

James Tauby, Mason Industries, Incorporated, NY [M]

Jack W. Thacker, Allan Automatic Sprinkler Corporation of Southern California, CA [IM]
Rep. National Fire Sprinkler Association

Victoria B. Valentine, National Fire Sprinkler Association, NY [M]

Alternates

Charles Bamford, Bamford Incorporated, WA [IM]
(Alt. to Randy R. Nelson)

Randall S. Chaney, Liberty Mutual Property, CA [I]
(Alt. to Luke Hilton)

Sheldon Dacus, Security Fire Protection Company, TN [M]
(Alt. to Victoria B. Valentine)

Christopher I. Deneff, FM Global, RI [I]
(Alt. to Antonio C. M. Braga)

Todd A. Dillon, GE Global Asset Protection Services, OH [I]
(Alt. to Tina Marie King)

Paul A. Hart, ERICO, Incorporated, OH [M]
(Alt. to J. Scott Mitchell)

Russell G. Hoeltzel, Marsh Risk Consulting, CA [I]
(Alt. to James B. Biggins)

Emil W. Misichko, Underwriters Laboratories Incorporated, IL [RT]
(Alt. to George E. Laverick)

Eric Packard, Local 669 JATC Education Fund, MD [L]
(Alt. to Michael A. Rothmier)

Allyn J. Vaughn, The RJA Group, Incorporated, NV [SE]
(Alt. to Donald C. Moeller)

George Von Gnatensky, Tolco, CA [M]
(Alt. to Terry Holst)

Ronald N. Webb, S.A. Comunale Company, Incorporated, OH [IM]
(Alt. to Jack W. Thacker)

Committee Scope: This Committee shall have the primary responsibility for those portions of NFPA 13 that pertain to the criteria for the use and installation of components and devices used for the support of water-based fire protection system piping including protection against seismic events.

Report of the Committee on

Private Water Supply Piping Systems (AUT-PRI)

J. William Sheppard, Chair
General Motors Corporation, MI [U]
Rep. NFPA Industrial Fire Protection Section

Christian Dubay, Nonvoting Secretary
National Fire Protection Association, MA

James B. Biggins, Marsh Risk Consulting, IL [I]
Richard W. Bonds, Ductile Iron Pipe Research Association, AL [M]
Phillip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]
Richard R. Brown, Brown Sprinkler Corporation, KY [IM]
Rep. National Fire Sprinkler Association
Stephen A. Clark, Jr., Allianz Risk Consultants, GA [I]
Brandon W. Frakes, GE Global Asset Protection Services, NC [I]
Robert M. Gagnon, Gagnon Engineering, MD [SE]
David M. Gough, Global Risk Consultants Corporation, CT [SE]
Luke Hilton, Liberty Mutual Property, FL [I]
Rep. Property Casualty Insurers Association of America
Gerald Kelliher, Westinghouse Savannah River Company, SC [U]
Kevin J. Kelly, National Fire Sprinkler Association, NY [M]
Marshall A. Klein, Marshall A. Klein & Associates, Incorporated, MD [SE]
Alan R. Laguna, Merit Sprinkler Company, Incorporated, LA [IM]
John Lake, Marion County Fire Rescue, FL [E]
George E. Laverick, Underwriters Laboratories Incorporated, IL [RT]
James M. Maddry, James M. Maddry, P.E., GA [SE]
Kevin D. Maughan, Tyco Fire & Building Products, RI [M]
David S. Mowrer, HSB Professional Loss Control, TN [I]
Robert A. Panero, Pacific Gas and Electric Company, CA [U]
Rep. Edison Electric Institute
Sam (Sat) Salwan, Environmental Systems Design, Incorporated, IL [SE]
James R. Schiffiliti, Fire Safety Consultants, Incorporated, IL [IM]
Rep. Illinois Fire Prevention Association
James W. Simms, The RJA Group, Incorporated, CA [SE]

Alternates

Mark A. Bowman, GE Global Asset Protection Services, OH [I]
(Alt. to Brandon W. Frakes)
James K. Clancy, The RJA Group, Incorporated, CA [SE]
(Alt. to James W. Simms)
W. Clark Gey, Wayne Automatic Fire Sprinklers, Incorporated, FL [IM]
(Alt. to Richard R. Brown)
David M. Hammerman, Marshall A. Klein and Associates, Incorporated, MD [SE]
(Alt. to Marshall A. Klein)
Charles F. Hill, Ryan Fire Protection, Incorporated, IN [M]
(Alt. to Kevin J. Kelly)
Blake M. Shugarman, Underwriters Laboratories Incorporated, IL [RT]
(Alt. to George E. Laverick)
Lawrence Thibodeau, Hampshire Fire Protection Company Incorporated, NH [IM]
(Alt. to Phillip A. Brown)

Nonvoting

Geoffrey N. Perkins, Bassett Consulting Engineers, Australia [SE]

Committee Scope: This Committee shall have the primary responsibility for documents on private piping systems supplying water for fire protection and for hydrants, hose houses, and valves. The Committee is also responsible for documents on fire flow testing and marking of hydrants.

Report of the Committee on

Residential Sprinkler Systems (AUT-RSS)

Daniel Madrzykowski, Chair
US National Institute of Standards & Technology, MD [RT]

Christian Dubay, Nonvoting Secretary
National Fire Protection Association, MA

George W. Baker, Mashpee Fire & Rescue Department, MA [E]
Rep. International Association of Fire Chiefs
Kerry M. Bell, Underwriters Laboratories Incorporated, IL [RT]
Fred Benn, Advanced Automatic Sprinkler, Incorporated, CA [IM]
Jonathan C. Bittenbender, REHAU Incorporated, VA [M]
Frederick C. Bradley, FCB Engineering, GA [SE]
Lawrence Brown, National Association of Home Builders, DC [U]
Phillip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]
Edward K. Budnick, Hughes Associates, Incorporated, MD [SE]
Thomas G. Deegan, The Viking Group, Incorporated, MI [M]
Rep. National Fire Sprinkler Association
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
Gary L. Johnson, Noveon, Incorporated, VA [M]
Rep. Committee for Firesafe Dwellings
David Killey, Fire Busters Incorporated, Canada [IM]
Rep. Canadian Automatic Sprinkler Association
Alan G. Larson, Uponor Wirsbo Company Incorporated, MN [M]
M. L. "Larry" Maruskin, US Department of Homeland Security, MD [C]
Ronald G. Nickson, National Multi Housing Council, DC [U]
Eric Packard, Local 669 JATC Education Fund, MD [L]
Rep. United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the US & Canada
Maurice M. Pilette, Mechanical Designs Limited, MA [SE]
Chester W. Schirmer, Schirmer Engineering Corporation, NC [I]
Harry Shaw, Fail Safe Safety Systems Incorporated, MD [M]
Sandra Stanek, Rural/Metro Fire Department, AZ [E]
George W. Stanley, Wiginton Fire Systems, FL [IM]
Rep. National Fire Sprinkler Association
Randolph W. Tucker, The RJA Group, Incorporated, TX [SE]
Ed Van Walraven, Aspen Fire Protection District, CO [E]
Terry L. Victor, Tyco/SimplexGrinnell, MD [M]
Hong-Zeng (Bert) Yu, FM Global, MA [I]

Alternates

David W. Ash, Noveon, Incorporated, OH [M]
(Alt. to Gary L. Johnson)
James K. Clancy, The RJA Group, Incorporated, CA [SE]
(Alt. to Randolph W. Tucker)
Mark E. Fessenden, Tyco Fire & Building Products, RI [M]
(Alt. to Terry L. Victor)
Ron Fletcher, Aero Automatic Sprinkler Company, AZ [IM]
(Alt. to Phillip A. Brown)
David B. Fuller, FM Approvals, RI [I]
(Alt. to Hong-Zeng (Bert) Yu)
W. Clark Gey, Wayne Automatic Fire Sprinklers, Incorporated, FL [IM]
(Alt. to George W. Stanley)
Franz P. Haase, Uponor Wirsbo Company Incorporated, NH [M]
(Alt. to Alan G. Larson)
George E. Laverick, Underwriters Laboratories Incorporated, IL [RT]
(Alt. to Kerry M. Bell)
Thomas L. Multer, Reliable Automatic Sprinkler Company, GA [M]
(Alt. to Thomas G. Deegan)
Ron Murray, Plumbers and Steamfitters Local 290 (UA), OR [L]
(Alt. to Eric Packard)

Steven R. Rians, Standard Automatic Fire Enterprises, Incorporated, TX [IM]
(Voting Alt. to AFSA Rep.)
David W. Stroup, US National Institute of Standards & Technology, MD [RT]
(Alt. to Daniel Madrzykowski)
Joseph E. Wiehagen, National Association of Home Builders, MD [U]
(Alt. to Lawrence Brown)
James V. C. Yates, West Windsor Emergency Services, NJ [E]
(Alt. to George W. Baker)

Nonvoting

Rohit Khanna, US Consumer Product Safety Commission, MD [C]

Committee Scope: This Committee shall have primary responsibility for documents on the design and installation of automatic sprinkler systems in dwellings and residential occupancies up to and including four stories in height, including the character and adequacy of water supplies, and the selection of sprinklers, piping, valves, and all materials and accessories.

Report of the Committee on

Sprinkler System Discharge Criteria (AUT-SSD)

Edward K. Budnick, *Chair*
Hughes Associates, Incorporated, MD [SE]

Christian Dubay, *Nonvoting Secretary*
National Fire Protection Association, MA

Charles O. Bauroth, Liberty Mutual Property, MA [I]
Rep. Property Casualty Insurers Association of America
Kerry M. Bell, Underwriters Laboratories Incorporated, IL [RT]
Michael H. Blumenthal, Rubber Manufacturers Association, DC [M]
James C. Bollier, Road Sprinkler Fitters UA Local 483, CA [L]
Rep. United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the US & Canada
Thomas G. Deegan, The Viking Group, Incorporated, MI [M]
Russell P. Fleming, National Fire Sprinkler Association, NY [M]
James G. Gallup, The RJA Group, Incorporated, AZ [SE]
James E. Golinveaux, Tyco Fire & Building Products, RI [M]
Joseph B. Hankins, Jr., FM Global Research, MA [I]
Roland J. Huggins, American Fire Sprinkler Association, Incorporated, TX [IM]
Sultan M. Javeri, SC Engineering, France [IM]
Larry Keeping, Vipond Fire Protection, Canada [IM]
Rep. Canadian Automatic Sprinkler Association
Andrew Kim, National Research Council of Canada, Canada [RT]
William E. Koffel, Koffel Associates, Incorporated, MD [SE]
Chris LaFleur, General Motors Corporation, MI [U]
Azarang (Ozzie) Mirkhah, Las Vegas Fire and Rescue, NV [E]
Richard Pehrson, Futrell Fire Consult and Design, Incorporated, MN [E]
Rep. International Fire Marshals Association
Chester W. Schirmer, Schirmer Engineering Corporation, NC [I]
Michael D. Sides, GE Global Asset Protection Services, FL [I]
Peter A. Smith, International Paper Company, TN [U]
Sandra Stanek, Rural/Metro Fire Department, AZ [E]
David W. Stroup, US National Institute of Standards & Technology, MD [RT]
Willie R. Templin, American Automatic Sprinkler, Incorporated, TX [IM]
Jack W. Thacker, Allan Automatic Sprinkler Corporation of Southern California, CA [IM]
Rep. National Fire Sprinkler Association
William J. Tomes, TVA Fire and Life Safety, Incorporated, GA [U]
Rep. The Home Depot

Alternates

Carl P. Anderson, Tacoma Fire Department, WA [E]
(Alt. to Azarang (Ozzie) Mirkhah)
Weston C. Baker, Jr., FM Global, MA [I]
(Alt. to Joseph B. Hankins)
Gordon Bates, Minneapolis Fire Department, MN [E]
(Alt. to Richard Pehrson)
Richard Battista, Fire Protection Industries, Incorporated, NJ [M]
(Alt. to Russell P. Fleming)
Mark A. Bowman, GE Global Asset Protection Services, OH [I]
(Alt. to Michael D. Sides)
John August Denhardt, Strickland Fire Protection, Incorporated, MD [IM]
(Alt. to Willie R. Templin)
Pravinray D. Gandhi, Underwriters Laboratories Incorporated, IL [RT]
(Alt. to Kerry M. Bell)
Donald Hopkins, Jr., Hughes Associates, Incorporated, MD [SE]
(Alt. to Edward K. Budnick)

Daniel Madrzykowski, US National Institute of Standards & Technology, MD [RT]
(Alt. to David W. Stroup)
Jack A. Medovich, East Coast Fire Protection, Incorporated, MD [IM]
(Alt. to Roland J. Huggins)
Thomas L. Multer, Reliable Automatic Sprinkler Company, GA [M]
(Voting Alt. to NFSA Rep.)
Garner A. Palenske, Schirmer Engineering Corporation, CA [I]
(Alt. to Chester W. Schirmer)
Raymond P. Schmid, Koffel Associates, Incorporated, MD [SE]
(Alt. to William E. Koffel)
George W. Stanley, Wiginton Fire Systems, FL [IM]
(Alt. to Jack W. Thacker)
Peter W. Thomas, Tyco Fire & Building Products, RI [M]
(Alt. to James E. Golinveaux)
William P. Thomas, Jr., TVA Fire and Life Safety, Incorporated, IL [U]
(Alt. to William J. Tomes)
Tom Vincent, Life Safety Systems, Canada [IM]
(Alt. to Larry Keeping)
Martin H. Workman, The Viking Group, Incorporated, MI [M]
(Alt. to Thomas G. Deegan)

Nonvoting

Barry M. Lee, Tyco International, Australia [M]

Committee Scope: This Committee shall have primary responsibility for those portions of NFPA 13 that pertain to the classification of various fire hazards and the determination of associated discharge criteria for sprinkler systems employing automatic and open sprinklers.

Report of the Committee on

Sprinkler System Installation Criteria (AUT-SSI)

Kenneth W. Linder, *Chair*
GE Global Asset Protection Services, CT [I]
Rep. GE Global Asset Protection Services

Christian Dubay, *Nonvoting Secretary*
National Fire Protection Association, MA

Weston C. Baker, Jr., FM Global, MA [I]
Edward K. Budnick, Hughes Associates, Incorporated, MD [SE]
Robert G. Caputo, Consolidated Fireprotection, Incorporated, CA [IM]
Rep. American Fire Sprinkler Association
Jean C. Carter, Jr., Louisiana Office of State Fire Marshal, LA [E]
Del Dornbos, The Viking Corporation, MI [M]
Rep. National Fire Sprinkler Association
Robert E. Duke, Fire Control Incorporated, IL [IM]
Randall Eberly, US Coast Guard, DC [E]
David L. Foster, Insurance Services Office, Incorporated, NJ [I]
Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE]
Rep. American Institute of Architects
Christopher M. Goddard, AstraZeneca, DE [U]
Rep. NFPA Industrial Fire Protection Section
Luke Hilton, Liberty Mutual Property, FL [I]
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
Larry Keeping, Vipond Fire Protection, Canada [IM]
Rep. Canadian Automatic Sprinkler Association
Michael D. Kirn, Code Consultants, Incorporated, MO [SE]
George E. Laverick, Underwriters Laboratories Incorporated, IL [RT]
Ausmus S. Marburger, Fire Protection Industries, Incorporated, PA [IM]
Rep. National Fire Sprinkler Association
Rodney A. McPhee, Canadian Wood Council, Canada [U]
Peter J. McWilliams, Eastman Kodak Company, NY [U]
Michael F. Meehan, Virginia Sprinkler Company, Incorporated, VA [IM]
Rep. American Fire Sprinkler Association
David S. Mowrer, HSB Professional Loss Control, TN [I]
Joe W. Noble, Clark County Fire Department, NV [E]
Rep. International Fire Marshals Association
Eric Packard, Local 669 JATC Education Fund, MD [L]
Rep. United Association of Journeymen & Apprentices of the Plumbing & Pipe Fitting Industry of the US & Canada
Chester W. Schirmer, Schirmer Engineering Corporation, NC [I]
Sandra Stanek, Rural/Metro Fire Department, AZ [E]
Craig R. Studer, The RJA Group, Incorporated, CA [SE]
Lynn K. Underwood, CSG Property, IL [I]
Terry L. Victor, Tyco/SimplexGrinnell, MD [M]

Alternates

Michael A. Amar, Gage-Babcock & Associates, Incorporated, CA [SE]
(Voting Alt. to Gage-Babcock Rep.)

Hamid R. Bahadori, Hughes Associates, Incorporated, FL [SE]
(Alt. to Edward K. Budnick)

Kerry M. Bell, Underwriters Laboratories Incorporated, IL [RT]
(Alt. to George E. Laverick)

Phillip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]
(Alt. to Robert G. Caputo)

Randall S. Chaney, Liberty Mutual Property, CA [I]
(Alt. to Luke Hilton)

Todd A. Dillon, GE Global Asset Protection Services, OH [I]
(Alt. to Kenneth W. Linder)

James E. Golinveaux, Tyco Fire & Building Products, RI [M]
(Alt. to Terry L. Victor)

Stephen R. Ide, Victaulic Company of America, PA [M]
(Alt. to Del Dornbos)

Elwin G. Joyce, II, Eastern Kentucky University, KY [U]
(Alt. to Christopher M. Goddard)

Richard S. Malek, Eastman Kodak Company, NY [U]
(Alt. to Peter J. McWilliams)

Thomas H. Miller, Varley-Campbell & Associates, Inc/Village of Glen Ellyn, IL [E]
(Voting Alt. to NFPA/FSS Rep.)

Richard Oliver, Oliver Sprinkler Company, Incorporated, PA [IM]
(Alt. to Ausmus S. Marburger)

Michael A. Rothmier, UA Joint Apprenticeship Committee, CO [L]
(Alt. to Eric Packard)

Steven J. Scandaliato, Scandaliato Design Group, Incorporated, CO [IM]
(Alt. to Michael F. Meehan)

LeJay Slocum, Schirmer Engineering Corporation, MD [I]
(Alt. to Chester W. Schirmer)

Robert Vincent, Shambaugh & Son, L.P., IN [M]
(Alt. to Kenneth E. Isman)

Tom Vincent, Life Safety Systems, Canada [IM]
(Alt. to Larry Keeping)

Corey C. Weldon, The RJA Group, Incorporated, TX [SE]
(Alt. to Craig R. Studer)

Nonvoting

Barry M. Lee, Tyco International, Australia [M]

Staff Liaison: **Christian Dubay**

Committee Scope: This Committee shall have the primary responsibility for those portions of NFPA 13 that pertain to the criteria for the use and installation of sprinkler systems components (with the exception of those components used for supporting of piping), position of sprinklers, types of systems, plans and calculations, water supplies, and acceptance testing.

These lists represent the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the front of this book.

The Report of the Committee on **Automatic Sprinkler Systems** is presenting five Reports for adoption, as follows:

The Reports were prepared by the:

- Technical Correlating Committee on Automatic Sprinkler Systems (AUT-AAC)
- Technical Committee on Hanging and Bracing of Water-Based Fire Protection Systems (AUT-HBS)
- Technical Committee on Private Water Supply Piping Systems (AUT-PRI)
- Technical Committee on Residential Sprinkler Systems (AUT-RSS)
- Technical Committee on Sprinkler System Discharge Criteria (AUT-SSD)
- Technical Committee on Sprinkler System Installation Criteria ((AUT-SSI)

Report I: The Committee proposes for adoption, amendments to NFPA 13, **Standard for the Installation of Sprinkler Systems**, 2002 edition. NFPA 13-2002 is published in Volume 1 of the 2004/2005 National Fire Codes and in separate pamphlet form.

NFPA 13 has been submitted to letter ballot of the applicable **Automatic Sprinkler Systems Committees**. The results of the balloting, after circulation of any negative votes, can be found in the report.

NFPA 13 has also been submitted to letter ballot of the **Technical Correlating Committee on Automatic Sprinkler Systems**, which consists of 17 voting members; of whom 14 voted affirmatively, and 3 ballots were not returned (Harmes, Kim, Underwood)

Report II: The Committee proposes for adoption, amendments to NFPA 13D, **Standard For the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes**, 2002 edition. NFPA 13D is published in Volume 1 of the 2004/2005 National Fire Codes and in separate pamphlet form.

NFPA 13D has been submitted to letter ballot of the **Technical Committee on Residential Sprinkler Systems**, which consists of 27 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

NFPA 13D has also been submitted to letter ballot of the **Technical Correlating Committee on Automatic Sprinkler Systems**, which consists of 17 voting members; of whom 13 voted affirmatively, and 4 ballots were not returned (Baz, Harmes, Kim, and Schirmer).

Report III: The Technical Committee proposes for adoption, amendments to NFPA 13R, **Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height**, 2002 edition. NFPA 13R-2002 is published in Volume 1 of the 2004/2005 National Fire Codes and in separate pamphlet form.

NFPA 13R has been submitted to letter ballot of the **Technical Committee on Residential Sprinkler Systems**, which consists of 27 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

NFPA 13R has also been submitted to letter ballot of the **Technical Correlating Committee on Automatic Sprinkler Systems**, which consists of 17 voting members; of whom 13 voted affirmatively, and 4 ballot(s) were not returned (Baz, Harmes, Kim, and Schirmer).

Report IV: The Technical Committee proposes for adoption, amendments to NFPA 24, **Standard for the Installation of Private Fire Service Mains and Their Appurtenances**, 2002 edition. NFPA 24-2002 is published in Volume 2 of the 2004/2005 National Fire Codes and in separate pamphlet form.

NFPA 24 has been submitted to letter ballot of the **Technical Committee on Private Water Supply Piping Systems**, which consists of 23 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

NFPA 24 has also been submitted to letter ballot of the **Technical Correlating Committee on Automatic Sprinkler Systems**, which consists of 17 voting members; of whom 13 voted affirmatively, and 4 ballots were not returned (Baz, Harmes, Kim, Schirmer).

Report V: The Technical Committee proposes for adoption, a reconfirmation to NFPA 291, **Recommended Practice for Fire Flow Testing and Marking of Hydrants**, 2002 edition. NFPA 291-2002 is published in Volume 13 of the 2004/2005 National Fire Codes and in separate pamphlet form.

NFPA 291 has been submitted to letter ballot of the **Technical Committee on Private Water Piping Systems**, which consists of 23 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

NFPA 291 has also been submitted to letter ballot of the **Technical Correlating Committee on Automatic Sprinkler Systems**, which consists of 17 voting members; of whom 13 voted affirmatively, and 4 ballots were not returned (Baz, Harmes, Kim, and Schirmer).

13R-1 Log #2 AUT-RSS
(Entire Document)

Final Action: Reject

SUBMITTER: Eugene J. DeRuyter Atlanta, GA

RECOMMENDATION: None given.

SUBSTANTIATION: When the fan is operating it is blowing the air down which would not let the heat hit the ceiling and set the sprinkler head off. It is assumed the air will go out to the wall and up to the ceiling, which will set off a Sidewall Sprinkler.

COMMITTEE MEETING ACTION: **Reject**

COMMITTEE STATEMENT: The submitter provided no recommendations. There is no evidence to substantiate that the fan will overcome the fire plume nor is it removing heat from room.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-2 Log #39 AUT-RSS
(Entire Document)

Final Action: Reject

SUBMITTER: Kenneth E. Isman, National Fire Sprinkler Association

RECOMMENDATION: Reference NFPA 13 for all of the requirements necessary to make a complete sprinkler system.

NFPA 13R

Standard for the

Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height

NFPA Proposal to Incorporate NFPA 13 References

Chapter 4 General Requirements

4.1 Compartments.

4.1.1 A compartment, for the purposes of this standard, shall be a space that is completely enclosed by walls and a ceiling.

4.1.2 A compartment enclosure shall be permitted to have openings in walls, provided the openings have a minimum lintel depth of 8 in. (203 mm) from the ceiling.

4.2 Tube. Wherever the word pipe is used in this standard, it shall also mean tube.

4.3* Basic Requirements. (13:8.1)

4.3.1* The requirements for spacing, location, and position of sprinklers shall be based on the following principles:

- (1) Sprinklers shall be installed throughout the premises.
- (2) Sprinklers shall be located so as not to exceed maximum protection area per sprinkler.
- (3) Sprinklers shall be positioned and located so as to provide satisfactory performance with respect to activation time and distribution.
- (4) Sprinklers shall be permitted to be omitted from areas specifically allowed by this standard (see 6.8).
- (5) When sprinklers are specifically tested and test results demonstrate that deviations from clearance requirements to structural members do not impair the ability of the sprinkler to control or suppress a fire, their positioning and location in accordance with the test results shall be permitted.
- (6) Clearance between sprinklers and ceilings exceeding the maximums specified in this standard shall be permitted provided that tests or calculations demonstrate comparable sensitivity and performance of the sprinklers to those installed in conformance with these sections.

Chapter 5 System Components

5.1 General.

5.1.1 Only new listed sprinklers shall be installed in sprinkler systems. Sprinklers shall be installed in accordance with their listing. (13: 8.3.1.1)

5.1.1.1 Sprinkler painting and finish material shall only be permitted in accordance with NFPA 13.

5.1.1.2 Sprinklers shall be permitted in occupancy hazard classifications and building construction types as allowed by NFPA 13 or as modified by this standard.

5.1.2 Only listed or approved devices and materials as specified in this standard shall be used in sprinkler systems.

5.1.3 Rated Pressure. System components shall be rated for pressure in accordance with NFPA 13 or as modified by this standard.

5.1.4 The use of reconditioned valves and devices as replacement equipment in existing systems shall be permitted in accordance with NFPA 13.

5.1.5 Escutcheons and cover plates shall be permitted to be used in accordance with NFPA 13.

5.1.6 Guards and shields shall be provided for sprinklers in accordance with NFPA 13.

5.1.7 A stock of spare sprinklers shall be provided in accordance with NFPA 13.

5.2 Piping.

5.2.1* Pipe or tube used in the above ground portions of sprinkler systems shall be of the materials specified in Table 5.2.1 or in accordance with 5.2.2. Underground pipe or tube shall be any type and diameter that is approved for multiple-family dwellings under the plumbing code as long as it satisfies the hydraulic demand criteria of this standard. (Note: eliminate A.5.2.1)

Table 5.2.1 Pipe or Tube Materials and Dimensions

5.2.1.1 The chemical properties, physical properties, and dimensions of pipe materials shall be at least equivalent to the standards cited in Table 5.2.1.

5.2.1.2 Pipe shall be designed to withstand a working pressure of not less than 175 psi (12.1 bar).

5.2.1.3 When nonmetallic pipe is used, the pipe shall be designed to withstand a working pressure of not less than 175 psi (12.1 bar) at 120°F (49°C).

5.2.2 Types of pipe other than those specified in Table 5.2.1 shall be permitted to be used where listed for sprinkler system use.

5.2.2.1 Pipe differing from those specified in Table 5.2.1 shall be installed in accordance with their listings and the manufacturers' installation instructions.

5.2.2.2* Chlorinated polyvinyl chloride (CPVC) and polybutylene (PB) pipe shall comply with the portions of the American Society for Testing and Materials (ASTM) standards specified in Table 5.2.2.2 that apply to fire protection service.

Table 5.2.2.2 Specially Listed Pipe or Tube Materials and Dimensions

5.2.2.3 Pipe or tube listed for light hazard occupancies shall be permitted to be installed in ordinary hazard rooms of otherwise light hazard occupancies in accordance with NFPA 13.

5.2.3 Pipe having a wall thickness less than that of Schedule 30 pipe shall not be joined by fittings utilizing cut grooves where the pipe is 8 in. (203 mm) nominal or larger in size.

5.2.4 Pipe having a wall thickness less than that of Schedule 40 pipe shall not be joined by fittings utilizing cut grooves where the pipe is less than 8 in. (203 mm) nominal in size.

5.2.5 Pipe joined with mechanical fittings using cut or rolled grooves shall be joined by a listed combination of fittings, gaskets, and grooves.

5.2.6 Grooves cut or rolled on pipe shall be dimensionally compatible with the fittings.

5.2.7 Fittings used in sprinkler systems shall be of the materials listed in Table 5.2.7 or in accordance with 5.2.10.

Table 5.2.7 Fitting Materials and Dimensions

5.2.7.1 The chemical properties, physical properties, and dimensions of fitting materials shall be at least equivalent to the standards cited in Table 5.2.7.

5.2.7.2 Fittings used in sprinkler systems shall be designed to withstand a working pressure of not less than 175 psi (12.1 bar).

5.2.7.3 When nonmetallic fittings are used, the fittings shall be designed to withstand a working pressure of not less than 175 psi (12.1 bar) at 120°F (49°C).

5.2.8 Joints for the connection of copper pipe shall be brazed on dry pipe and preaction systems.

5.2.9 Joints for the connection of copper pipe for wet systems shall use solder joints with 95-5 solder metal or be brazed.

5.2.10 Types of fittings other than those specified in Table 5.2.7 shall be permitted to be used where listed for sprinkler system use.

5.2.10.1 Fittings differing from those specified in Table 5.2.7 shall be installed in accordance with their listings and the manufacturers' installation instructions.

5.2.10.2* Chlorinated polyvinyl chloride (CPVC) and polybutylene (PB) fittings shall comply with the portions of the American Society for Testing and Materials (ASTM) standards specified in Table 5.2.10.2 that apply to fire protection service.

Table 5.2.10.2 Specially Listed Fittings and Dimensions

5.2.11 Welded pipe and fittings shall be in accordance with the rules of NFPA 13.

5.2.12 Hangers shall be in accordance with the requirements of NFPA 13.

5.2.13 Valves. Valves shall be selected and installed in accordance with NFPA 13.

5.2.14 Waterflow Alarms. Waterflow alarms shall be installed in accordance with NFPA 13.

5.2.15 System valves and gauges shall be accessible as required in NFPA 13.

5.3 System Types.

5.3.1 A wet pipe system shall be used where piping is installed in areas that can be maintained reliably above 40°F (4°C).

5.3.2* Piping in areas that cannot be maintained reliably above 40°F (4°C) shall be protected by use of one of the following methods:

- (1)* Antifreeze system
- (2) Dry pipe system
- (3) Preaction system
- (4) Listed standard dry-pendent, dry-upright, or dry-sidewall sprinklers extended from pipe in heated areas

5.3.3 Where antifreeze systems, dry pipe systems, and preaction systems are installed, they shall be installed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

5.4 System Protection Area Limitations. The size of systems shall be as limited by NFPA 13.

5.5 Provision for Flushing Systems. Flushing connections shall be provided in accordance with NFPA 13.

5.7 Return Bends. Return bends to pendent sprinklers shall be provided in accordance with the requirements of NFPA 13.

5.8 Piping to Sprinklers Below Ceilings. Outlets for sprinklers below ceilings and temporary hexagonal bushings shall be installed in accordance with the rules of NFPA 13.

5.9 Dry Pipe Underground. Where necessary to place dry-pipe underground, the requirements of NFPA 13 shall apply.

5.10 Drainage. All sprinkler pipe and fittings shall be installed in accordance with NFPA 13 so that the system can be drained.

5.11 Protection of Piping.

5.11.1 Protection of Piping Against Freezing. Pipe shall be protected against freezing in accordance with NFPA 13.

5.11.2 Protection of Piping Against Corrosion. Pipe shall be protected against corrosion in accordance with NFPA 13.

5.11.3 Protection of Piping in Hazardous Areas. Pipe shall be protected from hazardous areas in accordance with NFPA 13.

5.11.4 Protection of Risers Subject to Mechanical Damage. Sprinkler risers shall be protected against damage in accordance with NFPA 13.

5.12 System Attachments.

5.12.1 Gages. Gages shall be provided in accordance with NFPA 13.

5.12.2 System Connections.

5.12.2.1 Wet Pipe Systems. An alarm test shall be installed on wet pipe systems in accordance with NFPA 13.

5.12.2.2* Dry Pipe Systems. A trip test connection shall be installed on dry-pipe systems in accordance with NFPA 13.

5.12.2.3 Preaction System. A test connection shall be provided on a preaction system in accordance with NFPA 13.

5.12.2.4 Backflow Devices.

5.12.2.4.1 Means shall be provided downstream of all backflow prevention valves for flow tests at system demand in accordance with NFPA 13.

5.12.2.4.2 Retroactive Installation. When backflow prevention devices are to be retroactively installed on existing systems, a thorough hydraulic analysis shall be provided in accordance with NFPA 13.

Chapter 6 Working Plans, Design, Installation, Acceptance Tests, and Maintenance

6.1 Working Plans.

6.1.1 Working plans shall be submitted for approval to the authority having jurisdiction before any equipment is installed or remodeled.

6.1.2 Deviations from approved plans shall require permission of the authority having jurisdiction.

6.1.3 Working plans shall be drawn to a specified scale.

6.1.4 Sprinkler plan shall be drawn on sheets of uniform size.

6.1.5 Sprinkler plans shall provide a plan of each floor.

6.1.6 Sprinkler plans shall be capable of being easily duplicated.

6.1.7 Sprinkler plans shall indicate the following:

- (1) Name of owner and occupant
- (2) Location, including street address
- (3) Point of compass
- (4) Ceiling construction
- (5) Full height cross section
- (6) Location of fire walls
- (7) Location of partitions
- (8) Occupancy of each area or room
- (9) Location and size of concealed spaces, attics, closets, and bathrooms
- (10) Any small enclosures in which no sprinklers are to be installed
- (11) Size of the city main in the street, pressure, whether dead-end or circulating and, if dead-end, the direction and distance to the nearest circulating main, and the city main test results including elevation of the test hydrant
- (12) Make, manufacturer, type, heat-response element, temperature rating, and nominal orifice size of the sprinkler
- (13) Temperature rating and location of high-temperature sprinklers
- (14) Number of sprinklers on each riser, per floor
- (15) Kind and location of alarm bells
- (16) Type of pipe and fittings
- (17) Type of protection for nonmetallic pipe
- (18)* Nominal pipe size with lengths shown to scale
- (19) Location and size of riser nipples
- (20) Types of fittings and joints and the locations for all welds and bends
- (21) Types and locations of hangers, sleeves, and braces, and methods of securing sprinklers, where applicable
- (22) All control valves, check valves, drain pipes, and test connections
- (23) Underground pipe size, length, location, weight, material, and point of connection to the city main; type of valves, meters, and valve pits; and depth at which the top of the pipe is laid below grade
- (24) In the case of hydraulically designed systems, the material to be included on the hydraulic data nameplate
- (25) Name and address of the contractor

6.2 Approval of Sprinkler Systems.

6.2.1 The installer shall perform all required acceptance tests (see Section 6.3) prior to asking for approval of the installation.

6.2.2 The installer shall complete the contractor's material and test certificate(s) (see Figure 6.2.2) prior to asking for approval of the installation.

FIGURE 6.2.2 Contractor's Materials and Test Certificate for Aboveground Piping.

6.2.3 The installer shall forward the certificate(s) to the authority having jurisdiction prior to asking for approval of the installation.

6.2.4 Where the authority having jurisdiction requires to be present during the conducting of acceptance tests, the installer shall provide advance notification of the time and date the testing will be performed.

6.3 Acceptance Tests.

6.3.1* Flushing of Underground Connections.

6.3.1.1 Underground mains and lead-in connections to system risers shall be flushed before a connection is made to sprinkler piping.

6.3.1.2 The flushing operation shall be continued until the water issuing from the main is clear.

6.3.1.3 The flushing operation shall be performed at the hydraulically calculated water demand rate of the system.

6.3.1.4 The flushing operation shall be performed such that the disposal of water issuing from the test outlets does not damage the property.

6.3.2* Hydrostatic Pressure Tests.

6.3.2.1 Systems having more than 20 sprinklers or having a fire department connection shall pass a hydrostatic pressure test performed for the aboveground piping system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

6.3.2.2 Systems having both fewer than 20 sprinklers and no fire department connection shall pass a hydrostatic pressure test performed for the aboveground piping system at 50 psi higher than the maximum system pressure using the hydrostatic test procedure specified in NFPA 13, Standard for the Installation of Sprinkler Systems.

6.4 Design and Installation.

~~6.4.1 At least three spare sprinklers of each type, temperature rating, and orifice size used in the system shall be installed on the premises: (see 5.1.10)~~

6.4.2 Where solvent cement is used as the pipe and fittings bonding agent, sprinklers shall not be installed in the fittings prior to the fittings being cemented in place.

6.4.3 A test connection shall be installed that permits the testing of the alarm mechanisms.

6.5 Water Supply.

6.5.1 Every sprinkler system shall have at least one automatic water supply.

6.5.2 The water supply shall be capable of supplying the system demand for at least 30 minutes. (See 6.7.1.2.)

6.5.3* The water supply source shall be one of the following:

- (1) A connection to a reliable waterworks system with or without a pump, as required
- (2) An elevated tank
- (3) A pressure tank installed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems, and NFPA 22, Standard for Water Tanks for Private Fire Protection
- (4) A stored water source with an automatically operated pump

6.5.4 Where a fire pump is installed, the fire pump shall be installed in accordance with NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection.

6.5.5* Domestic demand shall be included as part of the overall system demand for systems with common domestic/fire mains where no provisions are made to prevent the domestic water flow upon sprinkler system activation.

6.5.6 Sprinkler systems with non-fire protection connections shall comply with Section 7.6 of NFPA 13, Standard for the Installation of Sprinkler Systems.

6.5.7 Water supplies shall be capable of providing the required flow and pressure for the required duration (13:15.1.2).

6.5.8 Connection Between Underground and Aboveground Piping. The connection between the underground and aboveground piping shall be in accordance with NFPA 13.

6.5.9 Meters. Where meters are required by other authorities, they shall be listed and installed in accordance with NFPA 13.

6.5.10 Connection from Waterworks System. Where connections are made from public waterworks systems, they shall be in accordance with NFPA 13.

6.6 Installation of System Components.

6.6.1 Valves.

6.6.1.1 A single control valve arranged to shut off both the domestic system and the sprinkler system shall be installed for systems with common sprinkler/domestic mains unless a separate shutoff valve for the sprinkler system is installed in accordance with 6.6.1.2.

6.6.1.2 The sprinkler system piping shall not have a separate control valve installed unless supervised by one of the following methods:

- (1) Central station, proprietary, or remote station alarm service
- (2) Local alarm service that cause the sounding of an audible signal at a constantly attended location
- (3) Valves that are locked open

6.6.1.3 A separate shutoff valve shall be installed for the domestic water supply in installations having a common sprinkler/domestic main.

6.6.2* Drains.

6.6.2.1 Each sprinkler system shall have a drain on the system side of the control valve.

6.6.2.2 The drain pipe shall be at least 1 in. (25 mm) nominal diameter.

6.6.2.3 A valve shall be installed in the drain piping.

6.6.2.4 A ½-in (13-mm) drain shall be installed for each trapped portion of a dry system that is subject to freezing temperatures.

6.6.3* Test Connections.

6.6.3.1 Each sprinkler system shall have a test connection.

6.6.3.2 The test connection pipe shall be at least 1 in. (25 mm) nominal diameter.

6.6.3.3 A valve shall be installed in the test connection piping.

6.6.3.4 When the drain required in 6.6.2.1 is arranged as a test connection, a separate test connection shall not be required.

6.6.4 Fire Department Connection.

6.6.4.1 At least one fire department connection shall be provided for buildings accessible by a fire department that exceed 2000 ft² (186 m²) or are more than a single story.

6.6.4.2 Fire department connections shall be at least ½ in. (38 mm).

6.6.5 Pressure Gauges.

6.6.5.1 A pressure gauge shall be provided to indicate pressure of the supply.

6.6.5.2 A pressure gauge shall be provided to indicate pressure of the system.

6.6.6* Piping Support. Piping hanging and bracing methods shall comply with NFPA 13, Standard for the Installation of Sprinkler Systems.

6.6.7 Sprinklers.

6.6.7.1 Inside the Dwelling Units.

6.6.7.1.1 Listed residential sprinklers shall be used unless another type is permitted by 6.6.7.1.3 or 6.6.7.1.4.

6.6.7.1.2 Residential sprinklers shall not be used on systems other than wet pipe systems unless specifically listed for use on that particular type of system.

6.6.7.1.3 Listed quick-response sprinklers shall be permitted to be installed in dwelling units meeting the definition of a compartment, as defined in Section 4.1, where no more than four sprinklers are located in the dwelling unit.

6.6.7.1.4 Quick-response sprinklers shall be permitted to be used in mechanical closets.

6.6.7.1.5 Temperature Ratings.

6.6.7.1.5.1* Sprinklers installed where maximum ambient ceiling temperatures do not exceed 100°F (38°C) shall be ordinary temperature-rated sprinklers unless modified by 6.6.7.1.5.3.

6.6.7.1.5.3 The following practices shall be observed when installing residential sprinklers unless higher expected ambient temperatures require a higher temperature rating.

Table 6.6.7.1.5.3 Minimum Distances for Ordinary and Intermediate Temperature

(A) Sprinklers under glass or plastic skylights exposed to direct rays of the sun shall be of intermediate temperature classification.

(B) Sprinklers in an unventilated concealed space under uninsulated roof or in an unventilated attic shall be of intermediate temperature classification.

(C) Sprinklers installed near specific heat sources that are identified in Table 6.6.7.1.5.3 shall be of the temperature rating indicated in Table 6.6.7.1.5.3 unless sprinklers are listed for positioning closer to the heat source 6.6.7.1.5.4. All sprinklers within a compartment shall have the same temperature classification except where required by 6.6.7.1.5.3 for a specific location.

6.6.7.1.6 Where nonmetallic ceiling plates (escutcheons) are used, they shall be listed. Escutcheon plates used to create a recessed or flush-type sprinkler shall be part of a listed sprinkler assembly.

6.6.7.1.7* Painting and Ornamental Finishes. Sprinkler frames shall not be painted or enameled unless applied by the manufacturer and the sprinkler has been listed with such finishes.

6.6.7.2 Outside the Dwelling Unit.

6.6.7.2.1 Sprinklers outside of the dwelling units shall be quick response and selection shall be based on the requirements of NFPA 13, Standard for the Installation of Sprinkler Systems, except where permitted by 6.6.7.2.2.

6.6.7.2.2 Residential sprinklers shall be permitted to be used in corridors leading to dwelling units and in areas covered by 6.7.2.2, 6.7.2.3 and 6.7.3.3.

6.6.7.3 Quick Response Sprinklers. Where quick response sprinklers are installed in accordance with 6.6.7.1.3, 6.6.7.1.4, or 6.6.7.2.1, the maximum allowable spacing, minimum allowable spacing and distance from the ceiling shall be in accordance with NFPA 13.

6.6.7.4 Vertical Shafts. Vertical shafts including interiors stairs and chutes shall be protected in accordance with NFPA 13 or as modified by this standard.

6.6.7.5 Open-Grid Ceilings. Open-grid ceilings shall only be installed as permitted by NFPA 13.

6.6.7.6 Drop-Out Ceilings. Drop-out ceilings shall only be permitted to be installed in accordance with NFPA 13.

6.6.8 Alarms.

6.6.8.1 A local waterflow alarm shall be provided on all sprinkler systems.

6.6.8.2 Where a building fire alarm system is provided, the local waterflow alarms shall be connected to the building fire alarm system.

6.6.8.3 Waterflow alarms and appurtenances shall be installed in accordance with NFPA 13.

6.7 System Design.

6.7.1 Design Criteria – Inside Dwelling Unit.

6.7.1.1 Design Discharge.

6.7.1.1.1 Residential Sprinklers That Have Not Been Listed with Specific Discharge Criteria.

6.7.1.1.1.1 The systems shall provide a discharge of not less than 13 gpm (49 L/min) per sprinkler simultaneously to all of the design sprinklers.

6.7.1.1.1.2 The system shall provide a discharge of not less than 18 gpm (68 L/min) to any sprinkler in the system.

6.7.1.1.2* Residential Sprinklers That Have Been Listed with Specific Discharge Criteria.

6.7.1.1.2.1 The system shall provide at least the flow required for the multiple and single sprinkler operating criteria specified by the sprinkler listing.

6.7.1.1.2.2* The system shall provide at least the flow required to produce a minimum discharge density of 0.05 gpm/ft² (2.04 mm/min) to the design sprinklers.

6.7.1.2* Number of Design Sprinklers. The number of design sprinklers under flat, smooth horizontal ceilings shall include all sprinklers within a compartment, up to a maximum of four sprinklers, that requires the greatest hydraulic demand.

6.7.1.3 Sprinkler Coverage.

6.7.1.3.1 Residential Sprinklers That Have Not Been Listed with Specific Coverage Criteria.

6.7.1.3.1.1 Sprinklers shall be spaced so that the maximum area protected by a single sprinkler does not exceed 144 ft² (13.4 m²).

6.7.1.3.1.2 The maximum distance between sprinklers shall not exceed 12 ft (3.7 m).

6.7.1.3.1.3 The maximum distance from the sprinkler to a wall or partition shall not exceed 6 ft (1.8 m).

6.7.1.3.1.4 The minimum distance between sprinklers within a compartment shall be 8 ft (2.4 m).

6.7.1.3.2 Residential Sprinklers That Have Been Listed with Specific Coverage Criteria. Sprinklers shall be installed in accordance with the coverage criteria specified by the listing.

6.7.1.3.3 Non-Residential Sprinklers. ~~Sprinklers other than residential sprinklers shall be installed in accordance with the coverage criteria specified by NFPA 13, Standard for the Installation of Sprinkler Systems.~~

6.7.1.4 Operating Pressure. The minimum operating pressure of any sprinkler shall be the higher of the minimum operating pressure specified by the listing or 7 psi (0.5 bar).

6.7.1.5 Position of Residential Sprinklers.

6.7.1.5.1 Pendent and Upright Sprinklers.

6.7.1.5.1.1 Pendent and upright sprinklers that have not been listed with specific positioning criteria shall be positioned so that the deflectors are within 1 in. to 4 in. (25.4 mm to 102 mm) from the ceiling.

6.7.1.5.1.2 Pendent and upright sprinklers that have been listed with specific positioning criteria shall be positioned in accordance with the listing.

6.7.1.5.2 Sidewall Sprinklers.

6.7.1.5.2.1 Sidewall sprinklers that have not been listed with specific positioning criteria shall be positioned so that the deflectors are within 4 in. to 6 in. (102 mm to 152 mm) from the ceiling.

6.7.1.5.2.2 Sidewall sprinklers that have been listed with specific positioning criteria shall be positioned in accordance with the listing.

6.7.1.5.3* Sprinklers shall be positioned so that the response time and discharge are not unduly affected by obstructions such as ceiling slope, beams, or light fixtures.

6.7.1.5.4 In closets and storage areas with both a volume no larger than 300 ft³ (8.93 m³) and a ceiling height less than 5 ft (1.5 m) at the lowest ceiling, a single sprinkler located at the highest ceiling shall be permitted to protect that space.

6.7.1.6 Quick Response Sprinklers.

6.7.1.6.1 Where quick response sprinklers are used in accordance with 6.6.7.1.3, the discharge and design area requirements of NFPA 13 shall apply.

6.7.1.6.2 Where quick response sprinklers are used in accordance with 6.6.7.1.4, all of the sprinklers in the mechanical closet, up to a maximum of 5, shall be capable of discharging a density of 0.05 gpm per sq. ft. This discharge is not required to be added to any adjacent compartment demands.

6.7.2* Design Criteria – Outside Dwelling Unit.

6.7.2.1 For areas outside the dwelling unit, the following design discharge and design area criteria shall comply with specifications in NFPA 13, Standard for the Installation of Sprinkler Systems, unless permitted by 6.7.2.2 and 6.7.2.3:

- (1) Design discharge
- (2) Number of design sprinklers
- (3) Sprinkler coverage
- (4) Position of sprinklers

6.7.2.2 The system demand of areas outside the dwelling unit shall be permitted to be limited to the number of sprinklers in the compartment area but shall not be greater than the demand for a total of four sprinklers where all of the following conditions are met:

- (1) The area is compartmented into areas of 500 ft² (46 m²) or less by 30-minute fire-rated construction.
- (2) The area is protected by quick-response or residential sprinklers not exceeding 130 ft² (12 m²) per sprinkler for ordinary hazard, 225 ft² (20.9 m²) for light hazard, or the allowable coverage of the sprinkler listing.
- (3) Openings have a lintel at least 8 in. (203 mm) in depth.
- (4) The total area of openings does not exceed 50 ft² (4.6 m²) for each compartment.
- (5) Discharge densities are in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

6.7.2.3 The following types of spaces are permitted to be protected by residential sprinklers where they have flat, smooth ceilings not exceeding 10 ft (3.0 m) in height and are protected in accordance with the requirements for residential sprinklers:

- (1) Lobbies not in hotels and motels
- (2) Foyers
- (3) Corridors
- (4) Halls
- (5) Lounges
- (6) Other areas with fire loads similar to residential

6.7.3 Design Criteria – Garages.

6.7.3.1 Garages that are completely separated from the residential portion of the building by fire resistive construction sufficient to have them considered separate buildings under the local code shall be protected in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

6.7.3.2 Garages that are accessible by people from more than one dwelling unit, and are not covered by 6.7.3.1, shall be considered part of the building and shall be protected in accordance with 6.7.2. Garage doors shall not be considered obstructions and shall be permitted to be ignored for placement and calculation of sprinklers.

6.7.3.3* Garages that are only accessible from a single dwelling unit shall be considered as part of that dwelling unit. Such garages shall be sprinklered with residential sprinklers in accordance with 6.7.1 or quick-response sprinklers designed to provide a density of 0.05 gpm/ft² (2.04 mm/min) over the area of the garage, but not to exceed four sprinklers. Garage doors shall not be considered obstructions and shall be permitted to be ignored for placement and calculation of sprinklers.

6.7.4 Pipe Sizing. Piping shall be sized using hydraulic calculation procedures in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

6.8 Location of Sprinklers.

6.8.1 Sprinklers shall be installed in all areas except where omission is permitted by 6.8.2 through 6.8.6.

6.8.2* Sprinklers shall not be required in bathrooms where both of the following conditions are met:

- (1) The bathroom area does not exceed 55 ft² (5.1 m²).
- (2) The walls and ceilings, including walls and ceilings behind fixtures, are of noncombustible or limited-combustible materials providing a 15-minute thermal barrier.

6.8.3 Sprinklers shall not be required in clothes closets, linen closets, and pantries within the dwelling units that meet all of the following conditions:

- (1) The area of the space does not exceed 24 ft² (2.2 m²).
- (2) The least dimension does not exceed 3 ft (0.9 m).
- (3) The walls and ceilings are surfaced with noncombustible or limited-combustible materials as defined by NFPA 220, Standard on Types of Building Construction.

6.8.4 Sprinklers shall not be required in any porches, balconies, corridors, and stairs that are open and attached.

6.8.5 Sprinklers shall not be required in attics, penthouse equipment rooms, elevator machine rooms, concealed spaces dedicated exclusively to and containing only dwelling unit ventilation equipment, crawl spaces, floor/ceiling spaces, elevator shafts, and other concealed spaces that are not used or intended for living purposes or storage and do not contain fuel-fired equipment.

6.8.6 Sprinklers shall not be required in closets on exterior balconies, regardless of size, as long as there are no doors or unprotected penetrations from the closet directly into the dwelling unit.

6.9* Maintenance.

6.9.1 The owner shall be responsible for the condition of a sprinkler system and shall keep the system in normal operating condition.

6.9.2 Sprinkler systems shall be inspected, tested, and maintained in accordance with NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.

SUBSTANTIATION: Currently, NFPA 13R leaves too many unanswered questions. Are control valves required to be listed? Is there a limit of 52,000 sq ft per floor before another riser is required? How is the fire department connection to be arranged and is a check valve required in the connection? Are flushing connections required on mains? Are welders required to be certified? How are we required to protect stairs, chutes and shafts? What are the requirements for main drains and auxiliary drains? This is just a partial list of the rules that are not covered by NFPA 13R, but need to be.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: It is not the intent of NFPA 13R to require NFPA 13R to reference NFPA 13 in all the various sections where NFPA 13R is silent.

The submitter is encouraged to submit the proposed changes as specific requirements to NFPA 13R so that they can individually be addressed by the committee either by section or chapter as appropriate.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 25 Negative: 1

BALLOT NOT RETURNED: 1 BAKER

EXPLANATION OF NEGATIVE:

BELL: UL is submitting a negative ballot on the committee action to reject Proposal 13R-2 because this proposal is needed to clearly define the requirements intended to be applied to NFPA 13R system installations. Referencing the applicable NFPA 13 requirements in NFPA 13R is more appropriate than including all the applicable NFPA 13 text into NFPA 13R and subsequently maintaining consistency whenever NFPA 13 is revised.

COMMENT ON AFFIRMATIVE

L. BROWN: NFPA 13R, as in NFPA 13D, is intended to be a standalone installation standard. Any provision in NFPA 13 one wishes to have included in NFPA 13R should be submitted as a separate proposed change to include the exact text to be included in NFPA 13R. A simple reference to another document, be it NFPA 13 or any other standard is unacceptable as it would require the installer to have many documents on the construction site in order to verify the installation is as required. This would be costly and a burden when only a few words need to be included in NFPA 13R.

13R-3 Log #57 AUT-RSS
(Entire Document)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Take out references to Polybutylene in all of the sections and the tables where it appears.

SUBSTANTIATION: No longer a viable material to use in systems.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-3a Log #CP6
(Entire Document)

Final Action: Accept

SUBMITTER: Technical Correlating Committee on Automatic Sprinkler Systems

RECOMMENDATION: The TCC directs staff to editorially ensure that all logs are properly combined and correlated. Additionally, staff is directed to ensure compliance with the NFPA manual of style.

SUBSTANTIATION: It is the intent of the TCC that staff editorially ensures that all accepted materials comply with the NFPA manual of style and that all of the accepted changes are incorporated into NFPA 13. Additionally, the TCC wants to ensure that where multiple proposals affected a single section that the final text incorporates all of the accepted changes from the various proposals.

COMMITTEE MEETING ACTION: Accept

[The TCC ballot results were 17 voting members; of whom 13 voted affirmatively and 4 ballots were not returned (Baz, Harmes, Kim, Schirmer).]

13R-4 Log #36 AUT-RSS
(1.1)

Final Action: Reject

SUBMITTER: Denyse DuBrucq, AirWars Defense

RECOMMENDATION: Add new text to read:

Covers design and installation of automatic sprinkler systems, water or liquid nitrogen, for the protection against fire hazards in residential occupancies up to four stories in height.

SUBSTANTIATION: Liquid nitrogen automatic sprinkler systems require one liquid nitrogen dispensing unit per continuous air volume, rather than many water sprinkler heads to insure the whole area would be dampened. The liquid nitrogen is rained down in droplets evaporating, flooding the space with cold nitrogen gas. This cools the air and displaces most of the oxygen.

Liquid nitrogen excels in a grease, oil, or wax fires where water causes these organics to spatter spreading the burn. Nitrogen robs the fire of oxygen and cools and solidifies or gels the grease, oil, and wax. Where water damages the contents and decor, Nitrogen does not disturb the contents, colors and cools the air reducing heat warping of plastics.

Dispenser units are installed in one wall at a height above floor allowing droplets to evaporate as they fall flooding space with cold nitrogen gas. Fire recovery is less costly. Losses are limited to what burned in the fire before liquid nitrogen application. Structural damage is reduced by its cooling the structure.

The reservoir should contain enough nitrogen to fill a protected living unit when evaporated. The fire department adds to liquid nitrogen supply in multi-unit fires.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Outside the scope of NFPA 13R.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-5 Log #37 AUT-RSS
(1.1)**Final Action: Reject****SUBMITTER:** Denyse Dubrucq, AirWars Defense**RECOMMENDATION:** Add new text as follows:

Liquid nitrogen automatic sprinkler systems require one liquid nitrogen dispensing unit per continuous air volume, rather than many water sprinkler heads to insure the whole area would be dampened. The liquid nitrogen is rained down in droplets evaporating, flooding the space with cold nitrogen gas. This cools the air and displaces most of the oxygen.

Liquid nitrogen excels in a grease, oil, or wax fires where water causes these organics to spatter spreading the burn. Nitrogen robs the fire of oxygen and cools and solidifies or gels the grease, oil, and wax. Where water damages the contents and decor, Nitrogen does not disturb the contents, colors and cools the air reducing heat warping of plastics.

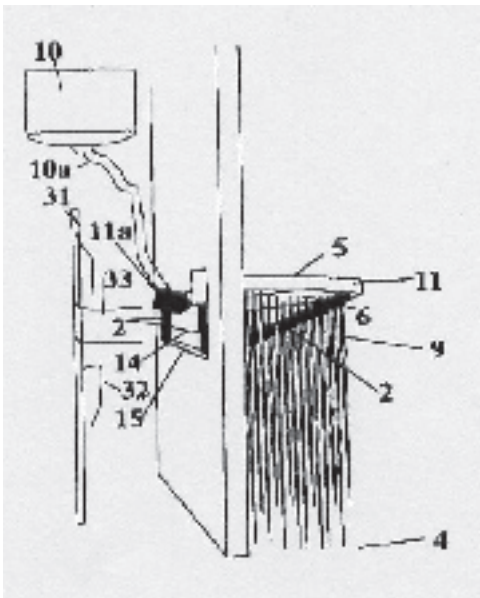
Dispenser units are installed in one wall at a height above floor allowing droplets to evaporate as they fall flooding space with cold nitrogen gas. Fire recovery is less costly. Losses are limited to what burned in the fire before liquid nitrogen application. Structural damage is reduced by its cooling the structure.

The reservoir should contain enough nitrogen to fill a protected living unit when evaporated. The fire department adds to liquid nitrogen supply in multi-unit fires.

SUBSTANTIATION: Included with the drawing of a liquid nitrogen dispensing unit is justification of including liquid nitrogen with water fire control. The reasons this, rather than halon-type chemical fire control categories, is where liquid nitrogen methods should be included in the NFPA Codes and Standards.

Here is a drawing of a unit system where 10 indicates a reservoir, 10a the transfer tubing, 11 the dispenser, and 14 the means to affix the dispenser to the window insert or wall. When the Liquid Nitrogen is dispersed it is liquid 2 and as it evaporates it is gaseous 4.

In the case of a Liquid Nitrogen (LN) fixed fire control system, the reservoir can hold one or more quantities to flood one or more living units with Nitrogen. Fire department LN supplies can add to the volume for multiple unit fires.



Liquid nitrogen systems should be included with water systems for the following reasons:

1. Both nitrogen and water are major ingredients in the natural earth's atmosphere.
2. Both liquid nitrogen and liquid water are brought to the fire scene.
3. Both are fire retardants in their gaseous form.
4. Both provide cooling of the vicinity of the fire through evaporation.
5. Both in great volume do not pollute the atmosphere.
6. Both in great volume do not pollute the watershed.

COMMITTEE MEETING ACTION: Reject**COMMITTEE STATEMENT:** Outside the scope of NFPA 13R.**NUMBER ELIGIBLE TO VOTE: 27****BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED: 1 BAKER**13R-6 Log #CP3 AUT-RSS
(1.1)**Final Action: Accept****SUBMITTER:** Technical Committee on Residential Sprinkler Systems**RECOMMENDATION:** Add additional text to the Scope as follows:

"...height above the lowest level of fire department vehicle access."

SUBSTANTIATION: The committee wanted to clarify the intent of the standard to ensure that NFPA 13R is not applied to buildings in excess of 4 stories due to interpretations of story and building height.

COMMITTEE MEETING ACTION: Accept**NUMBER ELIGIBLE TO VOTE: 27****BALLOT RESULTS:** Affirmative: 24 Negative: 2**BALLOT NOT RETURNED: 1 BAKER****EXPLANATION OF NEGATIVE:**

L. BROWN: In agreement with Negative Ballot Comment submitted by Ron Nickson. The term should be "building grade plane" so as this referenced standard can be understood in relationship to the application of the building codes, the International Building Code (IBC) and International Residential Code (IRC), that are adopted throughout the U.S.

NICKSON: Adding the text "...height above the lowest level of fire department vehicle access." will create a conflict with the building code that defines the height for application of the 13R sprinkler systems as being from the building grade plane. Although confusing in the existing building codes, the next editions of the building code commonly used throughout the country will clearly define that the building height applicable to the 13R sprinkler system is based on the building grade plane.

13R-7 Log #33 AUT-RSS
(1.1.2)**Final Action: Accept in Principle****SUBMITTER:** Robert G. Caputo, Consolidated Fireprotection, Inc. / Rep. American Fire Sprinkler Association**RECOMMENDATION:** Revise as follows:

A building provided with a fire sprinkler system designed and installed in accordance with the requirements of this standard, including its allowable omissions shall be considered fully sprinklered throughout.

SUBSTANTIATION: When residential occupancy buildings are increased in size or height based upon a trade off for having fire sprinklers, some model building codes state that the building must be sprinklered throughout. Based upon this requirement, some AHJ's do not permit 13R systems in 3 and 4 story buildings without modifications such as attic protection. This additional wording will not in and of itself, compel the acceptance of 13R system designs for said buildings but will provide additional guidance and confidence in the decision making process.

COMMITTEE MEETING ACTION: Accept in Principle

Accept the proposed text but locate in Chapter 4 as section 4.1 and renumber the rest of Chapter 4.

COMMITTEE STATEMENT: Editorially relocated proposed text.**NUMBER ELIGIBLE TO VOTE: 27****BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED: 1 BAKER**13R-8 Log #CP2 AUT-RSS
(3.3.5)**Final Action: Accept****SUBMITTER:** Technical Committee on Residential Sprinkler Systems**RECOMMENDATION:** Delete term and Definition for Multipurpose Systems from NFPA 13R**SUBSTANTIATION:** Term is not utilized in NFPA 13R.**COMMITTEE MEETING ACTION: Accept****NUMBER ELIGIBLE TO VOTE: 27****BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED: 1 BAKER**

13R-9 Log #6 AUT-RSS

Final Action: Accept**(3.3.6 Residential Occupancies)****SUBMITTER:** Jon Nisja, Northcentral Regional Fire Code Development Committee**RECOMMENDATION:** Revise to read:

3.3.6 Residential Occupancies. Occupancies, as specified in the scope of this standard, that include the following, as defined in NFPA 101®, Life Safety Code®:

- (1) Apartment buildings,
- (2) Lodging and rooming houses,
- (3) Board and care facilities (prompt and slow evacuation-type) , and
- (4) Hotels, motels, and dormitories.

SUBSTANTIATION: The Life Safety Code® allows a NFPA 13R sprinkler system to protect many classifications of Residential Board and Care Occupancies. Included are small facilities classified as Impractical to Evacuate occupants (see sections 32/33.2.3.5.2, Exception No. 5). The definition, as written, is not correct.

COMMITTEE MEETING ACTION: Accept**NUMBER ELIGIBLE TO VOTE:** 27**BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED:** 1 BAKER13R-10 Log #30 AUT-RSS
(3.3.5 Residential Occupancies)**Final Action: Reject****SUBMITTER:** Eddie Phillips, Southern Fire Code Development Committee
RECOMMENDATION: Revise text to read as follows:

3.3.5 Multipurpose Piping System. A piping system within a residential occupancy-intended to serve both domestic and fire protection needs.

SUBSTANTIATION: The language "within a residential occupancy" creates the impression with many AHJ's that a Multipurpose Piping System applies only within the building envelope. This is not always the case. Figure A.6.3(a) of NFPA 13D is a prime example of multipurpose piping occurring in a situation where it is not "within" the unit. The term "residential occupancy" is also proposed to be struck as it does not add any additional value to the definition. The term "Multipurpose Piping System" is already limited by the scope of the standard.**COMMITTEE MEETING ACTION:** Reject**COMMITTEE STATEMENT:** See committee action on 13R-8 (Log #CP2).**NUMBER ELIGIBLE TO VOTE:** 27**BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED:** 1 BAKER13R-11 Log #CP5 AUT-RSS
(3.3.7.2)**Final Action: Accept****SUBMITTER:** Technical Committee on Residential Sprinkler Systems**RECOMMENDATION:** Reword the following term:Residential Sprinkler. A type of fast-response sprinkler having a thermal element with an RTI of 50 (meters-seconds) $\frac{1}{2}$ or less, that has been specifically investigated for its ability to enhance survivability in the room of fire origin and is listed for use in the protection of dwelling units.**SUBSTANTIATION:** Term reworded to address issues with the NFPA Glossary of Terms.**COMMITTEE MEETING ACTION:** Accept**NUMBER ELIGIBLE TO VOTE:** 27**BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED:** 1 BAKER13R-12 Log #12 AUT-RSS
(3.3.9 Straight-Run Systems (New))**Final Action: Reject****SUBMITTER:** Guy Van Meulebrouck, Guy Van Meulebrouck Inc.**RECOMMENDATION:** Add a new definition to read as follows:

Straight-Run System. A type of piping design where part, if not all, of the system is only supplied by one path of flow. (As opposed to loops or networks where flow to a sprinkler head could take more than one path).

SUBSTANTIATION: 8.4.4 describes a design method for "straight-run" systems yet leaves it to the reader to guess what a straight-run system is.**COMMITTEE MEETING ACTION:** Reject**COMMITTEE STATEMENT:** The definition as written is not needed as it is assumed in the the term itself.**NUMBER ELIGIBLE TO VOTE:** 27**BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED:** 1 BAKER13R-13 Log #58 AUT-RSS
(4.1.2)**Final Action: Accept in Principle****SUBMITTER:** Thomas A. Noble, Henderson Fire Department, Fire Prevention Division**RECOMMENDATION:** Revise as follows:

A compartment enclosure shall be permitted to have openings in walls, provided the openings have a minimum lintel depth of 8 in. (203 mm) from the ceiling and provided that such openings are no greater than 30 percent of the wall.

SUBSTANTIATION: To avoid the four head calculation, the way the standard is written a 8 in. lintel can be placed in the largest room to separate the four heads and provide a two head calculation. I don't think this was the intent of the standard.**COMMITTEE MEETING ACTION:** Accept in Principle

Compartment. A space completely enclosed by walls and a ceiling. The compartment enclosure is permitted to have openings in walls to an adjoining space if the openings have a minimum lintel depth of 8 in. (203 mm) from the ceiling and the openings do not exceed 6 ft in width.

COMMITTEE STATEMENT: The committee agreed with the submitter but further wanted to clarify and correlate the limits and requirements for a compartment with NFPA 13R.**NUMBER ELIGIBLE TO VOTE:** 27**BALLOT RESULTS:** Affirmative: 24 Negative: 2**BALLOT NOT RETURNED:** 1 BAKER**EXPLANATION OF NEGATIVE:**

L. BROWN: In agreement with Negative Ballot Comment submitted by Ron Nickson.

NICKSON: The 6 ft is restrictive and could limit design options, requiring walls to be installed in open designs where kitchens, dining and living areas are intended to be one open area.

13R-14 Log #CP1 AUT-RSS
(4.3)**Final Action: Accept****SUBMITTER:** Technical Committee on Residential Sprinkler Systems**RECOMMENDATION:** Add a new section 4.3 as follows:

4.3 Listed or Labeled. Listed or labeled devices and materials shall be installed and used in accordance with the listing limitations and the manufacturers' installation instructions.

SUBSTANTIATION: Correlate text from NFPA 13D-16 (Log #10).**COMMITTEE MEETING ACTION:** Accept**NUMBER ELIGIBLE TO VOTE:** 27**BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED:** 1 BAKER13R-15 Log #40 AUT-RSS
(5.1.1)**Final Action: Accept in Part****SUBMITTER:** Cecil Bilbo, National Fire Sprinkler Association**RECOMMENDATION:** Revise 5.1.1 to read as follows:

5.1.1 Only new listed sprinklers shall be installed in sprinkler systems. Sprinklers shall be installed in accordance with their listing.

SUBSTANTIATION: Currently, NFPA 13R does not require that listed sprinklers be installed or that sprinklers be installed in accordance with their listing.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept in Part

Accept "Listed"

Reject proposed last sentence.

COMMITTEE STATEMENT: The committee agrees with the submitter and has added listed.

The committee rejects the last sentence based up the action taken in 13R-14 (Log #CP1).

NUMBER ELIGIBLE TO VOTE: 27**BALLOT RESULTS:** Affirmative: 26**BALLOT NOT RETURNED:** 1 BAKER13R-16 Log #10 AUT-RSS
(5.2.1)**Final Action: Reject****SUBMITTER:** Peter T. Schwab, Wayne Automatic Fire Sprinklers, Inc**RECOMMENDATION:** Modify 5.2.1 from:

5.2.1 Pipe or tube used in sprinkler systems shall be of the materials specified in Table 5.2.1 or in accordance with 5.2.2.

A.5.2.1 This standard anticipates that the water supply for the system is in compliance with the governing plumbing code for the jurisdiction. It is intended that any pipe material or diameter permitted for multiple family dwellings in the plumbing code and satisfying the hydraulic criteria of NFPA 13R is considered to be in compliance.

(Commentary)

NFPA 13R permits the underground supply pipe to conform to local plumbing code requirements. Provided the pipe is sized to accommodate system flow rates and conforms to all local requirements, it is acceptable by NFPA 13R.

To read:

5.2.1 For multipurpose water supply piping arrangements, pipe or tube used in sprinkler systems shall be of the materials specified in Table 5.2.1 or in accordance with 5.2.2.

A.5.2.1 This standard anticipates that the water supply for the system is in compliance with the governing plumbing code for the jurisdiction. It is intended that any multipurpose supply system pipe material or diameter permitted for multiple family dwellings in the plumbing code and satisfying the hydraulic criteria of NFPA 13R is considered to be in compliance.

NFPA 13R permits the underground supply pipe for multipurpose portions of piping systems to conform to local plumbing code requirements. Provided the multipurpose portion pipe is sized to accommodate system flow rates and conforms to all local requirements, it is acceptable by NFPA 13R.

And add:

5.2.1.4 Where the piping becomes exclusively dedicated to the fire sprinkler system it shall be specifically listed for fire protection service.

SUBSTANTIATION: The intent of the NFPA 13R code has always been to allow whatever meets local domestic supply piping requirements to simultaneously meet all fire line parameters. This is primarily a cost factor consideration and the proposal does not challenge this approach for multipurpose piping systems.

At one time, smaller sizes of plastic pipe listed for fire sprinkler service were not available. Today, such listed plastic pipe is widely available at competitive cost. Once the piping becomes dedicated to the fire sprinkler supply, it should be listed for fire protection service.

Table 5.2.1 Pipe or Tube Materials and Dimensions

Materials and Dimensions	Standard
Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use	ASTM A 795
Specification for Welded and Seamless Pipe	ASTM A 53
Wrought Steel Pipe	ANSI B36.10M
Specification for Electric-Resistance-Welded Steel Pipe	ASTM A 135
Specification for Seamless Copper Water Tube [Copper Tube (Drawn, Seamless)]	ASTM B 88
Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube	ASTM B 251
Fluxes for soldering Applications of Copper and Copper-Alloy Tube	ASTM B 813
Specification for filler Metals for Brazing and Braze Welding (Classification BCuP-3 or BCuP-4)	AWS A5.8
Specification for Solder Metal [95-5 (Tin-Antimony Grade 95TA)] Section 1: Solder Alloys Containing less than 0.2 percent Lead (Pb) as identified in ASTM B 32, Table 5, Section 1, and having a solidus temperature that exceeds 400°F (204°C)	ASTM B 32

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: While the committee agrees with the submitter the proposed changes do not address the issues in the body of the standard. The committee has referred this issue to a task group to develop material for the ROC to ensure the intent of the committee on requirements for underground piping is covered.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-17 Log #19 AUT-RSS

Final Action: Accept

(Table 5.2.1)

SUBMITTER: Dale L. Powell, Copper Development Assn. Inc

RECOMMENDATION: Revise 5.2.1 as follows:

See Table 5.2.1 Pipe or Tube Materials and Dimensions above.

The addition of “ Section 1: Solder Alloys Containing Less than 0.2% Lead ” in Table 5.2.1 is taken from Table 1 Solder Compositions as found on page 3 in the supporting material of ASTM B32-00 Standard Specification for Solder Metal.

SUBSTANTIATION: The reason for the proposed change to Table 5.2.1 Pipe or Tube Materials and Dimensions is based upon the requirements of most major model plumbing codes and the requirements of the Safe Drinking Water Act (SDWA) that has placed limits on the Lead (Pb) content of solder alloys at a maximum of 0.2% Lead (Pb). As the existing text is stated in Table 5.2.1 only 95/5 (Sn/Sb) soldered alloy meeting the requirements of Sb5 alloy in Table 1 of ASTM B32 is permitted for use in fire sprinkler systems utilizing soldered copper joints.

It has been an industry standard practice for many years for installers of soldered copper tube, pipe and fittings in all plumbing systems to use solder alloys meeting ASTM B32 and additionally those alloys must contain less than 0.2% Lead (Pb). The greatest majority of soldered copper joints are fabricated using alloys that meet the elemental composition requirements of TABLE 1 Solder Composition – wt% (range or maximum), Section 1: Solder Alloys Containing Less than 0.2% Lead C,D in ASTM B32-00 Standard Specification for Solder Alloys.

By allowing the use of alloys meeting the requirements of Section 1, as stated above, the ability of fire sprinkler installers to be better able to fabricate consistently sound soldered joints would be dramatically increased, since the effective working ranges (ΔT between solidus and liquidus) are much higher in many of the other alloys listed in Section 1 than the 14°F shown for alloy Sb5 (95/5 Tin/Antimony).

Technical information related to the strength of soldered joints found in the submitted supporting material to the B16 Committee clearly shows that many of the proposed lead-free solders [solders listed in Section 1 containing less than 0.2% Lead (Pb)] actually provide strengths higher than listed maximum operating pressure for type M copper tube.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-18 Log #54 AUT-RSS

Final Action: Accept in Principle

(5.2.1 and A.5.2.1)

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Delete the annex note to 5.2.1 and add a new sentence to the body of the section as follows:

“Any type of pipe or tube acceptable under the plumbing code for underground supply pipe shall be acceptable as underground supply for the fire sprinkler system.”

SUBSTANTIATION: This is what the annex note was trying to say, although it was not very clear. The statement is better in the body of the document rather than the annex.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept in Principle

COMMITTEE STATEMENT: See committee action on 13R-16 (Log #10).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 24 Negative: 2

BALLOT NOT RETURNED: 1 BAKER

EXPLANATION OF NEGATIVE:

ISMAN: Acceptable types of underground pipe supplying sprinkler systems installed in accordance with NFPA 13R needs to be addressed in the body of the standard. The current annex note is insufficient for two reasons. This first is that the note is in the annex and is unenforceable. The second is that the annex note does not make reference directly to underground pipe, even though that was the substantiation under which it was placed in the document. Some people have interpreted this annex note to only apply to aboveground piping, clarification is needed otherwise AHJ’s have been utilizing NFPA 24, which requires the underground pipe to be listed for fire protection use. Clearly this was not the intent of NFPA 13R.

STANLEY: The types of acceptable underground pipe directly feeding fire sprinklers systems should be addressed in the body of the standard. The AHJ needs clarification on what is acceptable underground pipe material for 13R systems.

13R-19 Log #31 AUT-RSS

Final Action: Accept

(5.2.2.2)

SUBMITTER: Gary L. Johnson, Noveon, Incorporated

RECOMMENDATION: Delete text as follows:

and polybutylene (PB) pipe

SUBSTANTIATION: PB is no longer used in fire sprinkler systems.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-20 Log #23 AUT-RSS

Final Action: Accept

(Table 5.2.2.2)

SUBMITTER: Gary L. Johnson, Noveon, Incorporated

RECOMMENDATION: Delete the following text:

Specification for Polybutylene (PB) Pipe ASTM D 3309 .

SUBSTANTIATION: PB is no longer used in fire sprinkler systems.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-21 Log #25 AUT-RSS

Final Action: Accept in Principle

(5.2.6.1)

SUBMITTER: Gary L. Johnson, Noveon, Incorporated

RECOMMENDATION: Add new text as follows:

Compatible thread sealant or Teflon tape can be used in a CPVC sprinkler head adapter. The combination of the two cannot be used together. The manufacturer of the sprinkler head adapter has listed installation instructions that must be followed for each sprinkler head adapter used.

SUBSTANTIATION: The practice of using both Teflon tape and thread sealant has caused the brass on many CPVC sprinkler head adapters to crack because of the additional stress. Each manufacturer has specific instructions on what to use for their particular sprinkler head adapter and each must be followed in mixed applications.

COMMITTEE MEETING ACTION: Accept in Principle

Accept proposed text, but locate in Section A.5.1.1.

COMMITTEE STATEMENT: The committee feels that the proposed text is better suited for the annex.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

COMMENT ON AFFIRMATIVE

ISMAN: We are hoping that the word “head” can be deleted the three times it appears in the annex note. A “head” is a device on a vessel into which waste material is deposited and flushed. The correct term for a device that senses heat and distributes water to control or suppress a fire is a “sprinkler”.

13R-22 Log #32 AUT-RSS **Final Action: Accept**
(5.2.10.2)

SUBMITTER: Gary L. Johnson, Noveon, Incorporated
RECOMMENDATION: Delete text as follows:
and polybutylene (PB) fittings
SUBSTANTIATION: PB is no longer used in fire sprinkler systems.
COMMITTEE MEETING ACTION: Accept
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-23 Log #26 AUT-RSS **Final Action: Reject**
(5.2.10.3)

SUBMITTER: Gary L. Johnson, Noveon, Incorporated
RECOMMENDATION: Add new text as follows:
Specialty listed pipe and fittings have a base listing plus enhanced listings allowing additional applications. When pipe and fittings are used in a system from different manufacturers, the entire system enhancement will be based on the pipe or fitting used that has the lowest amount of listing enhancements.
SUBSTANTIATION: Different manufacturers have different listing enhancements from UL for their pipe and/or fittings. When products from different manufacturers are mixed in a system, there is much confusion about what the system is approved for. This will stop that confusion and promote system continuity.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: Specifically listed products are required to be installed in compliance with the requirements and limitations of the product listing.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-24 Log #38 AUT-RSS **Final Action: Reject**
(5.3.2)

SUBMITTER: Kenneth E. Isman, National Fire Sprinkler Association
RECOMMENDATION: Limit the use of antifreeze systems to solutions of 50 percent antifreeze. Also require that systems discharge water after initial discharge of antifreeze.
SUBSTANTIATION: Concerns have been raised as to the use of antifreeze since it is a flammable liquid. When mixed with water at concentrations 50 percent or below, water miscible liquids tend not to exhibit flammable properties. Solutions over 50 percent need to be tested.
 While most antifreeze systems have a very small volume of antifreeze, which is then followed by water, concern has been expressed regarding the use of total antifreeze systems that never discharge anything but antifreeze. Controls should be put in place until testing has determined whether these systems will control a fire.
 This is a placeholder proposal while the Task Group on this subject continues to work.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: The submitter provided no data to support the proposed changes.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-25 Log #20 AUT-RSS **Final Action: Accept in Principle**
(6.3.2.3 (New))

SUBMITTER: Gary L. Johnson, Noveon, Incorporated
RECOMMENDATION: Add new text as follows:
 In existing buildings, CPVC cut-ins to active fire sprinkler systems must follow the manufacturers recommended cut-in procedure.
SUBSTANTIATION: Huge insurance losses have occurred because cut-ins to active fire sprinkler systems in occupied buildings have not been done properly. Following a cut-in procedure will insure the work is done properly in occupied buildings that have such a high potential for multimillion dollar claims.
COMMITTEE MEETING ACTION: Accept in Principle
 Locate in a new section 6.4.3 and renumber current 6.4.3, as 6.4.4.
COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to relocate the text.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-26 Log #24 AUT-RSS **Final Action: Accept in Principle**
(6.3.2.3 (New))

SUBMITTER: Gary L. Johnson, Noveon, Incorporated
RECOMMENDATION: Add new text as follows:
In existing buildings, CPVC cut-ins to active fire sprinkler systems must follow the manufacturers recommended cut-in procedure.
SUBSTANTIATION: Huge insurance losses have occurred because cut-ins to active fire sprinkler systems in occupied buildings have not been done properly. Following a cut-in procedure will insure the work is done properly in occupied buildings that have such a high potential for multimillion dollar claims.
COMMITTEE MEETING ACTION: Accept in Principle
COMMITTEE STATEMENT: See committee action on 13R-25 (Log #20).
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-27 Log #28 AUT-RSS **Final Action: Reject**
(6.4.2.1)

SUBMITTER: Gary L. Johnson, Noveon, Incorporated
RECOMMENDATION: Add new text as follows:
The sprinkler drop or horizontal pipe supplying each sprinkler head must be supported in such a way that the sprinkler head cannot lift up above the ceiling during activation.
SUBSTANTIATION: It has become a standard practice for some contractors to leave the head in a flexible mode to allow easy escutcheon installation. This practice could lead to ineffective head discharge.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: Currently covered in Section 6.6.6.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-28 Log #43 AUT-RSS **Final Action: Reject**
(6.5.4)

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association
RECOMMENDATION: Revise 6.5.4 as follows:
 Where a fire pump is installed to protect a building with sleeping accommodations for more than 16 people, the fire pump shall be installed in accordance with NFPA 20.
SUBSTANTIATION: There have been complaints regarding the cost of full NFPA 20 systems for small single-family homes converted into Lodging and Rooming houses like bed and breakfasts. The occupant load of 16 people has traditionally been used to describe buildings that are similar to two-family homes. If a residential occupancy is designed for sleeping 16 or fewer people, it should be close enough to a two-family home that the fire pump does not need to be listed or installed in accordance with NFPA 20.
 This proposal was developed by the NFSA Engineering and Standards Committee.
COMMITTEE MEETING ACTION: Reject
COMMITTEE STATEMENT: It is the intent of the committee that all NFPA 13R applications requiring a fire pump comply with NFPA 20.
NUMBER ELIGIBLE TO VOTE: 27
BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-29 Log #17 AUT-RSS **Final Action: Accept in Principle**
(6.6.1.3)

SUBMITTER: Peter T. Schwab, Wayne Automatic Fire Sprinklers, Inc
RECOMMENDATION: Create two new entries following 6.6.1.3:
6.6.1.4 If provided, a separate sprinkler piping system control or shut-off valve greater than 2-in. in size shall be of the slow opening type such as an O.S.&Y or other similar hand-wheel operated valve.
6.6.1.5 Valves 2-in. or less shall not be required to comply with 6.6.1.4.
SUBSTANTIATION: It is acknowledged that a primary concern of NFPA 13R is cost containment. This proposal suggests a different type of valve in an application, NOT an additional valve. The backflow industry standard for units less than 2-1/2 in. is to use quarter turn ball valves. The sprinkler industry should in this specific case try to conform to what readily exists as opposed to creating a new requirement. Water hammer associated with 2-in. and smaller valves should not be a concern.
COMMITTEE MEETING ACTION: Accept in Principle
 Create two new entries following 6.6.1.3:
6.6.1.4 System control or shut-off valves greater than 2-in. in size shall be of the slow closing type.
6.6.1.5 System control or shut-off valves 2-in. or less shall not be required to comply with Section 6.6.1.4.
COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to clarify the text.
NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26
BALLOT NOT RETURNED: 1 BAKER

13R-30 Log #63 AUT-RSS **Final Action: Accept**
(6.6.3.2)

SUBMITTER: Roger Wilkins, Tyco Fire Products

RECOMMENDATION: Revise as follows:

The test connection pipe shall be at least 1 in. (25 mm) nominal diameter and terminate in an orifice equal to or smaller than the same size as the smallest sprinkler installed in the system.

SUBSTANTIATION: The test orifice size needs to be defined as in NFPA 13 and NFPA 13D.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-31 Log #16 AUT-RSS **Final Action: Reject**
(6.6.4)

SUBMITTER: Lindsay J. Smith, Wayne Automatic Fire Sprinklers, Inc.

RECOMMENDATION: Revise to read as follows:

6.6.4 Fire Department Connection.

6.6.4.1 At least one fire department connection shall be provided for buildings accessible by a fire department that exceed 2000 sq ft or are more than a single story.

Proposed modification: Add new entries to specify FDC location.

6.6.4.3 The fire department connection shall be located on a building wall and piped overhead to the riser.

6.6.4.4 Fire Department Connection installation at back flow prevention assemblies or in pits, in the yard or anywhere on the underground system prior to the riser shall not be permitted.

SUBSTANTIATION: It is acknowledged that the 2002 Handbook commentary suggests that the NFPA 13R Committee favors the presence of FDC's for such residential applications. Naturally, in the eyes of firefighters any FDC is better than no FDC. However, typically a 1-1/2 in. residential FDC out in the yard is of little use by the time a fire department truck arrives on the scene. Nevertheless, please note that this proposal does not call for total elimination of residential FDC's.

The yard FDC in the typical residential application is in the minds of many more trouble than it is worth. Forty feet from the building is a spacing relic from the past that just isn't feasible on most present day residential construction projects. Realistically, on a modern NFPA 13R project, the old scenario of the tumbling brick wall of the totally involved multi-story building no longer applies.

It varies from job to job but the bottom line is that many man-hours are consumed trying to coordinate a final suitable location for the yard FDC amongst all the physical limitations, the AHJ concerns and the whims of the owners. Spacing conflicts exist with just about everything out there. Let's just put the FDC on the wall at the riser and be done with it!

There are good reasons to require the FDC at the riser. A well-defined location, the FDC at the riser would have to be easier to find quickly. Another that has been touted for years is the fact that there is much less chance of the FDC being inadvertently isolated from the system (by a closed valve) at the riser. Also, the typical NFPA 13R yard type FDC is a small, fragile item and is easily run over by vehicular traffic. In keeping with the spirit of NFPA 13R, the wall mounted FDC would in many cases reduce the quantity of underground piping required and therefore reduce system cost.

Overall, the monetary expenditure associated with yard FDC installations in NFPA 13R projects is out of proportion with respect to the actual positive impact on the level of fire protection provided.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The proposed text appears to make the FDC requirements more stringent than NFPA 13.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-32 Log #67 AUT-RSS **Final Action: Accept in Principle**
(6.6.7.1 (New))

SUBMITTER: Victoria B. Valentine, National Fire Sprinkler Association

RECOMMENDATION: Add a new Section 6.6.7.1 as follows and renumber current 6.6.7.1 and subsequent sections:

6.6.7.1 Listings

6.6.7.1.1 Areas of coverage for residential sprinklers shall be in accordance with the manufacturer's listing.

6.6.7.1.2 Where residential sprinklers are installed on a slope greater than 2 in 12, they shall be listed for this application.

SUBSTANTIATION: The standard needs to note the importance of following the manufacturer's listing information for residential sprinklers. Ceiling slopes also present a more challenging scenario for sprinklers to control the fire.

Therefore, the standard should recognize that residential sprinklers need to be specifically listed for a sloped ceiling application.

This proposal was developed by the UL/FM/NFSA Liaison Group.

COMMITTEE MEETING ACTION: Accept in Principle

Delete Section 6.7.1.1.1 and its subsections and renumber accordingly.

Change the title of current section 6.7.1.1.2 to "Residential Sprinklers"

COMMITTEE STATEMENT: The committee agrees with the submitter, but, deleted the section to further support that areas of coverage be in accordance with the manufacturers' listing requirements.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-33 Log #64 AUT-RSS **Final Action: Reject**
(6.6.7.1.2)

SUBMITTER: Roger Wilkins, Tyco Fire Products

RECOMMENDATION: Revise as follows:

Residential sprinklers shall not be used on systems other than wet pipe or antifreeze systems unless specifically listed for use on that particular type of system dry pipe and preaction systems, wherein the dry pipe and double interlock preaction systems are calculated for a maximum water delivery time of 15 seconds from most remote sprinkler operation to water discharge using a calculation program that listed by a nationally recognized laboratory.

SUBSTANTIATION: NFPA 13R needs to tie in the water delivery requirements of NFPA 13. Although it is only the dry pipe and double interlock preaction systems that require the 15 second water delivery time, the intent of the proposed text is that the same type listed sprinkler having proven itself for the 15 second delay be utilized for single interlock and noninterlock preaction systems, due to the life safety nature of residential sprinklers and knowing that even these systems could have a slight delay in water delivery.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: Currently Section 6.6.7.1.2 allows for residential sprinklers on dry or preaction systems where they are specifically listed for that type of system.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-34 Log #46 AUT-RSS **Final Action: Accept**
(6.6.7.1.3)

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Add two new sentences at the end of the current section as follows:

"Where quick response sprinklers (including extended coverage quick response sprinklers) are used, the density/area requirement shall be a minimum of 0.1 gpm per sq ft over the entire dwelling unit. Where extended coverage quick response sprinklers are used, the flow shall be sufficient to meet the listing of the sprinklers at the spacing for which they are being used."

SUBSTANTIATION: There is no clear statement in NFPA 13R as to the number of design sprinklers when quick response sprinklers are being used. There is also no clear statement that the 0.1 gpm per sq. ft density applies. Since the quick response sprinklers can only be used when the entire dwelling unit is protected by four or fewer sprinklers, a variation of the Room Design method would allow this four sprinkler (or less) design.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-35 Log #34 AUT-RSS **Final Action: Reject**
(6.6.7.1.3.1)

SUBMITTER: Roland J. Huggins, American Fire Sprinkler Assn.

RECOMMENDATION: The number of design sprinklers shall include all sprinklers within the dwelling unit providing a density of 0.05 gpm/sf.

SUBSTANTIATION: There is currently no guidance on design criteria for this option. The proposed criteria is similar to that defined for garages using QR sprinklers.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: See committee action on 13R-34 (Log #46).

Additionally, Quick Response sprinklers are currently not evaluated for performance at 0.05 gpm/sq. ft. and are not evaluated for the other characteristics of residential sprinklers.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-36 Log #45 AUT-RSS
(6.6.7.1.4)

Final Action: Accept in Principle

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association
RECOMMENDATION: Add a sentence at the end of the current section as follows:

“Such sprinklers shall be capable of discharging a minimum of 0.1 gpm per sq. ft at a minimum of 7 psi on their own.”

SUBSTANTIATION: There needs to be some guidance as to what the hydraulic expectations of such sprinklers are. They should not be required to be added to the remote system calculations, but they should at least be able to discharge at 7 psi.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept in Principle

Add a sentence at the end of the current section as follows:

Such sprinklers shall be capable of discharging a minimum of 0.1 gpm per sq. ft.

COMMITTEE STATEMENT: The committee agreed with the submitter, but wanted to further clarify the text to address the proposed requirements. It is not the intent of the committee that these sprinklers be added to the design area within the dwelling unit.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-37 Log #62 AUT-RSS
(6.6.8)

Final Action: Reject

SUBMITTER: Roger Wilkins, Tyco Fire Products

RECOMMENDATION: Revise as follows:

6.6.8 Alarms.

6.6.8.1 A local waterflow alarm or alarm resulting from sprinkler operation shall be provided on all sprinkler systems.

6.6.8.2 Where a building fire alarm system is provided, the local waterflow alarms or alarms resulting from sprinkler operation shall be connected to the building fire alarm system.

SUBSTANTIATION: In the case of systems such as dry pipe and or double interlock preaction where loss of air pressure will occur before water delivery, an earlier alarm could be achieved by having an alarm resulting from sprinkler operation. The earlier alarm, somewhere between 0 and 15 seconds before water discharge may be advantageous for a system intended to aid in detection and improve protection against injury.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The intent of the committee is that an alarm be provided once a sprinkler activates and water is flowing.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-38 Log #15 AUT-RSS
(6.6.8.3 (New))

Final Action: Accept

SUBMITTER: Lindsay J. Smith, Wayne Automatic Fire Sprinklers, Inc.

RECOMMENDATION: Add a new entry, 6.6.8.3 to read as follows:

6.6.8.3 Where a building fire alarm system is provided, the building fire sprinkler system shall not be required to be zoned by floor.

SUBSTANTIATION: This issue has been unclear for years. Why not at long last clarify the fact that NFPA 13R systems are not required to be zoned by floor? Put this clarification IN THE RESIDENTIAL SPRINKLER CODE, so that long futile journeys through NFPA 13, NFPA 70, NFPA 72, NFPA 101 and wherever else the AHJ rambles, are not needed.

The problem is that local authorities want fire sprinkler zoning by floor (a control valve and flow switch for each floor) on these types of projects, even though it may not be specifically required by code. The same old problems crop up: Variations from one jurisdiction to the next, extra maintenance, and unnecessary additional cost to the owner.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-39 Log #50 AUT-RSS
(6.7.1.1.1)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Delete 6.7.1.1.1.

SUBSTANTIATION: There are no sprinklers that fall into this category. Inside the dwelling unit, the only choices are residential sprinklers or quick response sprinklers. This section was intended to apply to residential sprinklers, but in the absence of such a limitation, it is being applied to quick response sprinklers. Since all residential sprinklers fall into present section 6.7.1.1.2, this section can be deleted.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

See committee action on 13R-32 (Log #67).

COMMITTEE STATEMENT: See committee action on 13R-32 (Log #67).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-40 Log #49 AUT-RSS
(6.7.1.1.2)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Add “Residential” to the title of 6.7.1.1.2.

SUBSTANTIATION: This section only applies to residential sprinklers used in NFPA 13R. Where the quick response sprinkler option is used, these sections should not apply, yet without the clarification, they would certainly seem to apply.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

See committee action on 13R-32 (Log #67).

COMMITTEE STATEMENT: See committee action on 13R-32 (Log #67).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-41 Log #41 AUT-RSS
(6.7.1.2)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: The number of design sprinklers under flat, smooth, horizontal ceilings shall include all sprinklers within a compartment, up to a maximum of four adjacent sprinklers, that requires the greatest hydraulic demand.

SUBSTANTIATION: Without the word “adjacent”, the 4 sprinklers that create the most demanding situation are situated in opposite corners. NFPA 13R is written around the premise that the sprinkler system is only going to fight a single fire, so forcing the sprinkler system’s water supply to support multiple fire ignitions in opposite corners is inappropriate. Yet many AHJ’s are forcing the design to incorporate sprinklers in opposite portions of compartments, especially in large compartments (including corridors) forcing larger than necessary water supplies and more expensive than necessary sprinkler systems.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-42 Log #48 AUT-RSS
(6.7.1.3.1)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Delete all of 6.7.1.3.1.

SUBSTANTIATION: There are no sprinklers that fall into this category. Keeping outdated spacing rules in the standard leads to confusion. Since all residential sprinklers fall into present section 6.7.1.3.2, this section can be deleted.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-43 Log #47 AUT-RSS
(6.7.1.3.2)

Final Action: Accept in Principle

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Add a second sentence to 6.7.1.3.2 to read:

“The minimum distance between sprinklers within a compartment shall be 8 ft unless a greater minimum distance is specified by the sprinkler’s listing.”

SUBSTANTIATION: During the 2002 rewrite, we lost the basic requirement that residential sprinklers be kept 8 ft apart. This basic rule needs to be put back in the standard.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept in Principle

See committee action on 13R-44 (Log #66).

COMMITTEE STATEMENT: See committee action on 13R-44 (Log #66).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-44 Log #66 AUT-RSS
(6.7.1.3.2 and Figure (New))

Final Action: Accept in Principle

SUBMITTER: Victoria B. Valentine, National Fire Sprinkler Association

RECOMMENDATION: Revise Section 6.7.1.3.2 as follows:

6.7.1.3.2 Residential Sprinklers That Have Been Listed with Specific Coverage Criteria

6.7.1.3.2.1 Sprinklers shall be installed in accordance with the coverage criteria specified by the listing.

6.7.1.3.2.2 Sloped Ceilings.

6.7.1.3.2.2.1 Where the ceiling is sloped the maximum “S” dimension shall be measured along the slope of the ceiling to the next sprinkler as shown in Figure 6.7.1.3.2.2 on the following page.

6.7.1.3.2.2.2 The sprinklers shall maintain a minimum of 8 ft or 1/2 the maximum listed spacing, whichever is greater, measured in the plan view from one sprinkler to another as shown in Figure 6.7.1.3.2.2.

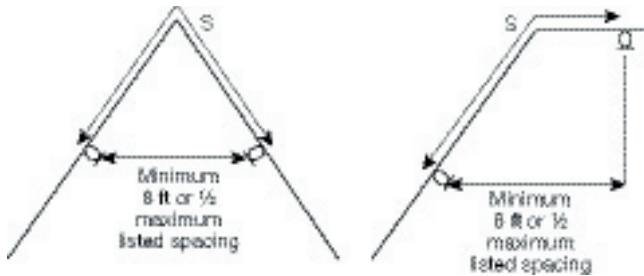


Figure 6.7.1.3.2.2 Measuring “S” Dimension.

SUBSTANTIATION: The standard does not offer a clear perspective on how to measure the spacing along a sloped ceiling. This proposal offers guidance to the end user clarifying the intent to measure along the slope.

This proposal was developed by the UL/MN/NFSA Liaison Group.

COMMITTEE MEETING ACTION: Accept in Principle

Revise Section 6.7.1.3.2 as follows:

6.7.1.3.2 Sprinklers shall be installed in accordance with the coverage criteria specified by the listing.

6.7.1.3.2.1 Sloped Ceilings.

6.7.1.3.2.1.1 Where the ceiling is sloped the maximum “S” dimension shall be measured along the slope of the ceiling to the next sprinkler as shown in Figure 8.1.3.2.2.

6.7.1.3.2.1.2 The sprinklers shall maintain the minimum listed spacing, but no less than 8 feet, measured in the plan view from one sprinkler to another as shown in Figure 6.7.1.3.2.1.2

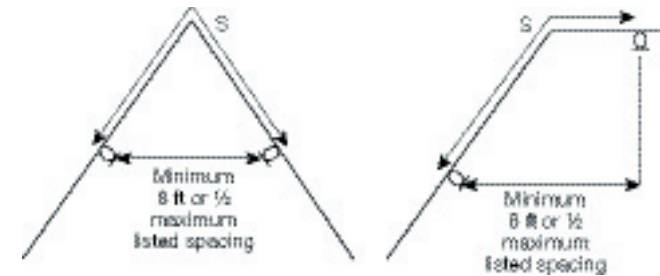


Figure 6.7.1.3.2.1.2. Measuring “S” Dimension.

COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to further clarify the 8 ft minimum.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-45 Log #4 AUT-RSS
(6.7.1.5.2.3 (New)[1999: 2.5.1.7])

Final Action: Accept

TCC ACTION: The Technical Correlating Committee directs AUT-RSS to evaluate the accepted actions of proposal 13R-45 (Log #4) as it applies to the requirements of NFPA 13D.

SUBMITTER: Wayne Clark Gey, Wayne Automatic Fire Sprinklers

RECOMMENDATION: Add new section to read as follows:

2-5.1.7.2.1 Where soffits are used for the installation of sidewall sprinklers, they shall not exceed 8 in. (203 mm) in width or projection from the wall.

Exception: Sidewall sprinklers shall be allowed to be installed in the face of a soffit located directly over (kitchen) cabinets, without requiring additional sprinklers below the soffit, where the soffit does not project horizontally more than 16 in. (406 mm) from the wall.

SUBSTANTIATION: The root of the problem is the increasing difficulty in routing of sprinkler piping and properly positioning residential sprinklers within dwelling units. Modern “value engineered” construction techniques combined with ever evolving architectural configurations create a formidable challenge for the fire sprinkler designer to “cover” or protect today’s typical residential applications with a reasonable amount of economy. The resultant problem created is the propensity for fire inspectors and officials to require (unnecessary) additional sprinklers in and around and below and above and behind this or that, because they think the code says so. Not only do you wind up with an unsightly, overpriced arrangement that in no way enhances the level of fire protection provided. Not only do you fly in the face of the original intent of 13R. You also potentially wind up with a situation where “Activating more sprinklers than anticipated by the design in a compartment can overtax the water supply and reduce the effectiveness of the sprinkler system.”

The 8-in. soffit limitations for standard sidewalls in 5-7.4.1.4 and for extended coverage sidewalls in 5-9.4.1.4 of NFPA 13 are acknowledged. The 8-in. criteria is recognized as a component of the dominant theme of the overall area/density design approach. That basic approach is to provide a uniform density over every possible square foot of floor area. In a dwelling unit application, sprinkler discharge emphasis is shifted from covering floor area to discharging at higher elevations so as to maintain takable conditions at higher levels and allow exiting of the building. Once again, the typical NFPA 13R fire sprinkler system is not designed or intended to save the building (although they often do). A 13R system is intended to be a cost effective “safety net” to give the occupants a reasonable opportunity to get out.

Additionally, the volume directly below the soffit/cabinet is invariably occupied by general kitchen countertop space, not floor space. There is no specifically stated requirement to cover countertop space, not floor space. There is no specifically stated requirement to cover countertops or any other attached millwork. There is no specific hazard per any applicable residential code that requires localized coverage on countertops or under kitchen cabinets.

Consider for comparison that ceiling obstructions of up to 30 in. in depth (horizontal) are allowed along walls by Chapter 5 of NFPA 13 in certain applications of upright and pendent sprinklers. Also, A-2-5.1.7.3 of NFPA 13R recognizes that “Small areas created by architectural features”, like planter box windows, bay windows and similar features are typically smaller than a closet, do not add floor space and “are not anticipated to significantly increase the fire hazard of a residence nor to adversely impact sprinkler performance”. A typical residential kitchen cabinet arrangement compares favorably with such architectural features. The committee recognizes that sprinkler designers need every tool available for residential applications, and is in agreement that within a dwelling unit kitchen, the typical nominal 12 horizontal in. deep kitchen cabinet installation under a similarly sized soffit poses no significant challenge to the satisfactory operation and area function of a sidewall sprinkler located in the face of the soffit.

COMMITTEE MEETING ACTION: Accept

COMMITTEE STATEMENT: Additionally, this item will also be referred to the obstruction task group.

Staff editorially modify accepted material to comply with NFPA Manual of Style.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-46 Log #68 AUT-RSS
(6.7.1.5.2.5 (New))

Final Action: Reject

SUBMITTER: Victoria B. Valentine, National Fire Sprinkler Association

RECOMMENDATION: Add new Section 6.7.1.5.2.5 as follows:

6.7.1.5.2.5 Soffits. Where soffits used for the installation of sidewall sprinklers exceed 12 in. (203 mm) in width or projection from the wall, additional sprinklers shall be installed below the soffit.

SUBSTANTIATION: Soffits are common residential installations and should therefore be addressed by this standard. The soffit depth is increased to 12 in as this is a common kitchen cabinet depth installed and it has never been the intention of this standard to require sprinklers underneath kitchen cabinets.

This proposal was developed by the UL/FM/NFSA Liaison Group.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The submitter provided no data to support the proposed changes.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 25 Negative: 1

BALLOT NOT RETURNED: 1 BAKER

EXPLANATION OF NEGATIVE:

YU: I agree to the justifications provided by the submitters.

13R-47 Log #53 AUT-RSS
(6.7.1.5.3)

Final Action: Accept in Part

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Make the obstruction rules similar to NFPA 13 for residential sprinklers. Insert an annex note as follows:

A.6.7.1.5.3 Where the obstruction criteria established by this standard is followed, sprinkler spray patterns will not necessarily get water to every square ft of space within a room. As such, a sprinkler in a room with acceptable obstructions as outlined in this standard may not be capable of passing the fire test (specified by UL 1626 and other similar laboratory standards) if the fire is started in one of these dry areas. This is not to be interpreted as a failure of the sprinklers. The laboratory fire tests are sufficiently challenging to the sprinkler without additional obstructions as a safety factor to account for the variables that actually occur in dwellings including acceptable obstructions to spray patterns."

SUBSTANTIATION: In the absence of definitive criteria in the standard, AHJ's have been making up their own rules. These rules have not been consistent with the philosophy of NFPA 13 or NFPA 13D. Specific criteria will be proposed by another NFSA proposal. The new material in this proposal is an annex note warning AHJ's a laboratories that the UL 1626 criteria is not intended to be applied to the worst case of the obstructions allowed. Instead, these obstructions have been permitted based on the severity of the UL 1626 test and recognition that in most cases, real fires will not be as severe.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept in Part

Only accept the proposed annex material.

COMMITTEE STATEMENT: The committee agrees with the annex material and has referred the proposed obstruction issues to the obstruction task group for consideration at the ROC.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-48 Log #1 AUT-RSS
(6.7.1.5.3 [1999: 2.5.1.7.3])

Final Action: Reject

SUBMITTER: Eugene J. DeRuyter Atlanta, GA

RECOMMENDATION: Add text to read as follows:

Section 2-5.1.7.3 Sprinklers shall be positioned so that response time and discharge are not unduly affected by obstructions such as ceiling slopes, beams or fixtures (add) "and Ceiling Fans".

SUBSTANTIATION: When the ceiling fan is operating at high speed, it will blow the fire heat down and away from the ceiling sprinkler, delaying the operational time to defuse the sprinkler element. Recommend installing sidewall sprinklers at the wall or a smoke detector on the ceiling to shut the fan off.

COMMITTEE MEETING ACTION: Reject

See committee action on 13R-1 (Log #2).

COMMITTEE STATEMENT: See committee action on 13R-1 (Log #2).

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-49 Log #65 AUT-RSS
(6.7.1.5.3 & 6.7.1.5.4 (New))

Final Action: Reject

SUBMITTER: Victoria B. Valentine, National Fire Sprinkler Association

RECOMMENDATION: Delete current text found in 6.7.1.5.3:

~~Sprinklers shall be positioned so that the response time and discharge are not unduly affected by obstructions such as ceiling slope, beams, or light fixtures.~~

Add the following Sections as 6.7.1.5.3 and 6.7.1.5.4:

6.7.1.5.3 Obstructions to Sprinkler Discharge (Residential Upright and Pendent Spray Sprinklers).

6.7.1.5.3.1 Performance Objective.

6.7.1.5.3.1.1 Sprinklers shall be located so as to minimize obstructions to discharge as defined in 6.7.1.5.3.2 and 6.7.1.5.3.3, or additional sprinklers shall be provided to ensure adequate coverage of the hazard.

6.7.1.5.3.1.2 Sprinklers shall be arranged to comply with one of the following arrangements:

(1) Sprinklers shall be in accordance with Table 6.7.1.5.3.1.2 and Figure 6.7.1.5.3.1.2(a).

(2) Sprinklers shall be permitted to be spaced on opposite sides of obstructions not exceeding 4 ft (1.2 m) in width provided the distance from the centerline of the obstruction to the sprinklers does not exceed one-half the allowable distance permitted between sprinklers.

(3) Obstructions located against the wall and that are not over 30 in. (762 mm) in width shall be permitted to be protected in accordance with Figure 6.7.1.5.3.1.2(b).

Insert Table 8.10.6.1.2 from NFPA 13 as Table 6.7.1.5.3.1.2 Position of Sprinklers to Avoid Obstructions to Discharge (Residential Upright and Pendent Spray Sprinklers).

Insert FIGURE 8.10.6.1.2(a) from NFPA 13 as Figure 6.7.1.5.3.1.2(a) Position of Sprinklers to Avoid Obstructions to Discharge (Residential Upright and Pendent Spray Sprinklers).

Insert FIGURE 8.10.6.1.2(b) from NFPA 13 as Figure 6.7.5.3.1.2(b) Obstructions Against Walls (Residential Upright and Pendent Spray Sprinklers).

6.7.1.5.3.2 Obstructions to Sprinkler Discharge Pattern Development.

6.7.1.5.3.2.1 General.

6.7.1.5.3.2.1.1 Continuous or noncontinuous obstructions less than or equal to 18 in. (457 mm) below the sprinkler deflector that prevent the pattern from fully developing shall comply with 6.7.1.5.3.2.

6.7.1.5.3.2.1.2 Regardless of the rules of this section, solid continuous obstructions shall meet the applicable requirements of 6.7.1.5.3.1.2.

6.7.1.5.3.2.1.3* Unless the requirements of 6.7.1.5.3.2.1.4 through 6.7.1.5.3.2.1.9 are met, sprinklers shall be positioned away from obstructions a minimum distance of four times the maximum dimension of the obstruction (e.g., truss webs and chords, pipe, columns, and fixtures). The maximum clear distance required shall be 36 in. (0.91 m) in accordance with Figure 6.7.1.5.3.2.1.3.

Insert Figure 8.10.6.2.1.3 from NFPA 13 as Figure 6.7.1.5.3.2.1.3 Minimum Distance from Obstruction (Residential Upright and Pendent Spray Sprinklers.)

6.7.1.5.3.2.1.4 Sprinklers shall be permitted to be spaced on opposite sides of the obstruction where the distance from the centerline of the obstruction to the sprinklers does not exceed one-half the allowable distance between sprinklers.

6.7.1.5.3.2.1.5 Sprinklers shall be permitted to be located one-half the distance between the obstructions where the obstructions consists of open trusses 20 in. (0.51 m) or greater apart [24 in. (0.16 m) on center], provided that all truss members are not greater than 4 in. (102 mm) (nominal) in width and web members do not exceed 1 in. (25.4 mm) in width.

6.7.1.5.3.2.1.6 Sprinklers shall be permitted to be installed on the centerline of a truss or bar joist or directly above a beam provided that the truss chord or beam dimension is not more than 8 in. (203 mm) and the sprinkler deflector is located at least 6 in. (152 mm) above the structural member and where the sprinkler is positioned at a distance four times greater than the maximum dimension of the web members away from the web members.

6.7.1.5.3.2.1.7 The requirements of 6.7.1.5.3.2.1.3 shall not apply to the piping to which an upright sprinkler is directly attached less than 3 in. (75 mm) in diameter.

6.7.1.5.3.2.1.8 The requirements of 6.7.1.5.3.2.1.3 shall not apply to sprinklers positioned with respect to obstructions in accordance with 6.7.1.5.3.1.2.

6.7.1.5.3.2.1.9 The requirements of 6.7.1.5.3.2.1.5 shall not apply to the piping to which pendent sprinklers are directly attached.

6.7.5.3.2.2 Suspended or Floor-Mounted Vertical Obstructions. The distance from sprinklers to privacy curtains, free-standing partitions, room dividers, and similar obstructions in light hazard occupancies shall be in accordance with Table 6.7.1.5.3.2.2 and Figure 6.7.1.5.3.2.2.

Insert Table 8.10.6.2.2 from NFPA 13 as Table 6.7.1.5.3.2.2 Suspended or Floor-Mounted Obstructions (Residential Upright and Pendent Spray Sprinklers)

Insert FIGURE 8.10.6.2.2 from NFPA 13 as Figure 6.7.1.5.3.2.2 Suspended or Floor-Mounted Obstructions (Residential Upright and Pendent Spray Sprinklers).

6.7.1.5.3.3* Obstructions that Prevent Sprinkler Discharge from Reaching the Hazard.

6.7.1.5.3.3.1 Continuous or noncontinuous obstructions that interrupt the water discharge in a horizontal plane more than 18 in. (457 mm) below the sprinkler deflector in a manner to limit the distribution from reaching the protected hazard shall comply with 6.7.1.5.3.3.

6.7.1.5.3.3.2 Sprinklers shall be installed under fixed obstructions over 4 ft (1.2 m) wide such as ducts, decks, open grate flooring, cutting tables, and overhead doors.

6.7.1.5.3.3.3 Sprinklers shall not be required under obstructions that are not fixed in place such as conference tables.

6.7.1.5.4 Obstructions to Sprinkler Discharge (Residential Sidewall Spray Sprinklers.)

6.7.1.5.4.1 Performance Objective.

6.7.1.5.4.1.1 Sprinklers shall be located so as to minimize obstructions to discharge or additional sprinklers shall be provided to ensure adequate coverage of the hazard.

6.7.1.5.4.1.2 Sidewall sprinklers shall be installed no closer than 8 ft (2.4 m) from light fixtures or similar obstructions.

6.7.1.5.4.1.3 The distance between light fixtures or similar obstructions located more than 8 ft (2.4 m) from the sprinkler shall be in conformity with Table 6.7.1.5.4.1.3 and Figure 6.7.1.5.4.1.3.

Insert Table 8.10.7.1.3 from NFPA 13 as Table 6.7.1.5.4.1.3 Positioning of Sprinklers to Avoid Obstructions (Residential Sidewall Sprinklers).

Insert Figure 8.10.7.1.3 from NFPA 13 as Figure 6.7.1.5.4.1.3 Positioning of Sprinklers to Avoid Obstructions (Residential Sidewall Sprinklers)

6.7.1.5.4.1.4 Obstructions projecting from the same wall as the one on which the sidewall sprinkler is mounted shall be in accordance with Table 6.7.1.5.4.1.4 and Figure 6.7.1.5.4.1.4.

Insert Table 8.10.6.1.2 and Figure 8.7.5.1.4 from NFPA 13 as new Table 6.7.1.5.4.1.4 and new Figure 6.7.1.5.4.1.4.

6.7.1.5.4.2 Obstructions to Sprinkler Discharge Pattern Development.

6.7.1.5.4.2.1 General.

6.7.1.5.4.2.1.1 Continuous or noncontinuous obstructions less than or equal to 18 in. (457 mm) below the sprinkler deflector that prevent the pattern from fully developing shall comply with this section.

6.7.1.5.4.2.1.2 Regardless of the rules of this section, solid continuous obstructions shall meet the requirements of 6.7.1.5.4.1.2 and 6.7.1.5.4.1.3.

6.7.1.5.4.2.1.3* Unless the requirements of 6.7.1.5.4.2.1.4 or 6.7.1.5.4.2.1.5 are met, sprinklers shall be positioned away from obstructions a minimum distance of four times the maximum dimension of the obstruction. The maximum clear distance required shall be 36 in. (0.91 m) from the sprinkler (e.g., truss webs and chords, pipe, columns, and fixtures).

6.7.1.5.4.2.1.4 Sidewall sprinklers shall be positioned in accordance with Figure 6.7.5.4.2.1.4 when obstructions are present.

Insert FIGURE 8.10.7.2.1.4 from NFPA 13 as Figure 6.7.1.5.4.2.1.4 Minimum Distance from Obstruction (Residential Sidewall).

6.7.1.5.4.2.1.5 The requirements of 6.7.1.5.4.2.1.3 and 6.7.1.5.2.1.4 shall not apply where sprinklers are positioned with respect to obstructions in accordance with 6.7.1.5.4.1.2 and 6.7.1.5.4.1.3.

6.7.1.5.4.2.2 Suspended or Floor-Mounted Vertical Obstructions. The distance from sprinklers to privacy curtains, free-standing partitions, room dividers, and similar obstructions in light hazard occupancies shall be in accordance with Table 6.7.1.5.4.2.2 and Figure 6.7.1.5.4.2.2.

Insert Table 8.10.7.2.2 from NFPA 13 as Table 6.7.1.5.4.2.2 Suspended or Floor-Mounted Obstructions (Residential Sidewall Sprinklers).

Insert FIGURE 8.10.7.2.2 from NFPA 13 as Figure 6.7.1.5.4.2.2 Suspended or Floor-Mounted Obstructions (Residential Sidewall Sprinklers).

6.7.1.5.4.3* Obstructions that Prevent Sprinkler Discharge from Reaching the Hazard.

6.7.1.5.4.3.1 Continuous or noncontinuous obstructions that interrupt the water discharge in a horizontal plane more than 18 in. (457 mm) below the sprinkler deflector in a manner to limit the distribution from reaching the protected hazard shall comply with this section.

6.7.1.5.4.3.2 Sprinklers shall be installed under fixed obstructions over 4 ft (1.2 m) wide such as ducts, decks, open grate flooring, cutting tables, and overhead doors.

6.7.1.5.4.3.3 Sprinklers shall not be required under obstructions that are not fixed in place such as conference tables.

A.6.7.1.5.3.2.1.3 The rules of 6.7.1.5.3.2.1.3 (known as the “Four Times Rule”) have been written to apply to obstructions where the sprinkler can be expected to get water to both sides of the obstruction without allowing a significant dry shadow on the other side of the obstruction. This works for small noncontinuous obstructions and for continuous obstructions where the sprinkler can throw water over and under the obstruction, such as the bottom chord of an open truss or joist. For solid continuous obstructions, such as a beam, the Four Times Rule is ineffective since the sprinkler cannot throw water over and under the obstruction. Sufficient water must be thrown under the obstruction to adequately cover the floor area on the other side of the obstruction. To ensure this, compliance with the rules of 6.7.1.5.3.1.2 is necessary.

A.6.7.1.5.3.3 Frequently, additional sprinkler equipment can be avoided by reducing the width of decks or galleries and providing proper clearances. Slating of decks or walkways or the use of open grating as a substitute for automatic sprinklers there under is not acceptable. The use of cloth or paper dust tops for rooms forms obstruction to water distribution. If dust tops are used, the area below should be sprinklered.

A.6.7.1.5.4.2.1.3 The rules of 6.7.1.5.4.2.1.3 (known as the “Four Times Rule”) have been written to apply to obstructions where the sprinkler can be expected to get water to both sides of the obstruction without allowing a significant dry shadow on the other side of the obstruction. This works for small noncontinuous obstructions and for continuous obstructions where the sprinkler can throw water over and under the obstruction, such as the bottom chord of an open truss or joist. For solid continuous obstructions, such as a beam, the Four Times Rule is ineffective since the sprinkler cannot throw water over and under the obstruction. Sufficient water must be thrown under the obstruction to adequately cover the floor area on the other side of adequately cover the floor area on the other side of the obstruction. To ensure this, compliance with the rules of 6.7.1.5.3.1.2 is necessary.

A.6.7.1.5.4.3 See A.6.7.1.5.3.3.

Renumber current Section 6.7.1.5.4 and subsequent sections.

SUBSTANTIATION: The single statement that currently deals with obstructions offers no guidance to the user. Even though NFPA 13D offer a less costly life safety system the sprinklers still need to be clear of obstructions in order to perform their function properly. The obstruction criteria found in NFPA 13 should therefore be applicable to all installations of residential sprinklers.

This proposal was developed by the UL/FM/NFSA Liaison Group.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee rejects the inclusion of the obstruction rules from NFPA 13. It is not the intent of NFPA 13R to provide the same level of spacing for obstructions as NFPA 13. The committee assumes that there will be some level of obstructions that will not provide the same level of performance as NFPA 13, but with the primary intent of NFPA 13R being life safety these obstructions are acceptable.

Additionally a task group has been formed to review the obstruction rules from NFPA 13 for possible inclusion in NFPA 13R.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 25 Negative: 1

BALLOT NOT RETURNED: 1 BAKER

EXPLANATION OF NEGATIVE:

YU: I agree to the justifications provided by the submitters.

13R-50 Log #9 AUT-RSS
(6.7.1.5.3 and A.6.7.1.2)

Final Action: Accept in Principle

SUBMITTER: Peter T. Schwab, Wayne Automatic Fire Sprinklers, Inc

RECOMMENDATION: To remain unchanged...

6.7.1.5.3 Sprinklers shall be positioned so that the response time and discharge are not unduly affected by obstructions such as ceiling slope, beams, or light fixtures.

Add:

6.7.1.5.3.1 Sprinklers installed under non-horizontal sloped, pitched, vaulted, volume or cathedral ceilings shall be specifically listed for such applications.

Related Section Requires Partial Removal

Eliminate

~~A.6.7.1.2 ... Residential sprinklers are currently listed for use under flat, smooth, horizontal ceilings only. Sloped, beamed, and pitched ceilings could require special design features such as larger flows or a design for five or more sprinklers to operate in the compartment~~

SUBSTANTIATION: Residential sprinkler listings are no longer limited to flat, smooth ceilings (max allowable 2 in 12 slope). Specific sprinklers for installation in non-flat, non-horizontal ceiling (8 in 12 slope) applications are now listed. Further recommendations are provided directly by the manufacturers for extreme ceiling configurations, dependent upon approval of the local fire official. The proposal acknowledges this fact and clearly delineates the application of the two main categories (flat horizontal and non).

COMMITTEE MEETING ACTION: Accept in Principle

A.6.7.1.2 All residential sprinklers have been investigated and are currently listed for use under flat, smooth, horizontal ceilings. Some residential sprinklers have been investigated and listed for use under specific smooth sloped or horizontal beamed ceilings. Where ceilings have configurations outside the scope of current listings special sprinkler system design features such as larger flows, a design of five or more sprinklers to operate in a compartment, or both may be required.

COMMITTEE STATEMENT: Meets submitter’s intent.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-51 Log #18 AUT-RSS
(6.7.1.5.5 (New))

Final Action: Accept in Principle

SUBMITTER: Peter T. Schwab, Wayne Automatic Fire Sprinklers, Inc

RECOMMENDATION: Add a new 6.7.1.5.5 as follows:

6.7.1.5.5 In air conditioning equipment closets that are less than 100 ft³ in volume, a single sprinkler located at the highest ceiling shall be permitted to protect the entire closet regardless of obstruction to discharge patterns.

SUBSTANTIATION: The situation is related to a typical 2 ft 4 in. by 2 ft 6 in. residential AHU closet that is virtually crammed full of ductwork from the ceiling down to the discharge at the air handler cabinet. The problem is the AHJ that wants additional sprinklers in this (6 square foot) closet because the lone sprinkler’s discharge pattern is blocked by duct and the entire floor might not get wet!

To “properly” protect such a configuration by the letter of the code without creating any “shadows” could require 2 or even 3 strategically placed sprinklers! Surely this cannot represent the intent of the committee.

COMMITTEE MEETING ACTION: Accept in Principle

Add a new 6.7.1.5.5 as follows:

6.7.1.5.5 In all closets including mechanical equipment closets, that are less than 100 ft³ in volume, a single sprinkler located at the highest ceiling shall be permitted to protect the entire closet regardless of obstruction to discharge patterns.

COMMITTEE STATEMENT: The committee agreed with the submitter, but further wanted to clarify the proposed.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-52 Log #69 AUT-RSS
(6.7.1.5.5 & Annex (New))

Final Action: Accept in Part

SUBMITTER: Victoria B. Valentine, National Fire Sprinkler Association

RECOMMENDATION: Add new Section 6.7.1.5.5 as follows:

6.7.1.5.5 Sprinklers can be placed without regard to the blades of a ceiling fan provided the plan view of the fan is at least 50% open.

A.6.7.1.5.5 The housing unit of the ceiling fan is expected to be addressed by the 4 times rule.

SUBSTANTIATION: Ceiling fans are a common obstruction in residential occupancies that should be addressed by this standard. If the sprinkler is at least 4 times away from the housing unit of the fan then the fire should be able

to be controlled by the sprinkler even though the blades may shadow some of the coverage area.

This proposal was developed by the UL/FM/NFSA Liaison Group.

COMMITTEE MEETING ACTION: Accept in Part

Add new Section 6.7.1.5.5 as follows:

6.7.1.5.5 Sprinklers shall be permitted to be placed without regard to the blades of a ceiling fan provided the plan view of the fan is at least 50% open.

Reject the annex text.

COMMITTEE STATEMENT: It is the intent of the committee that the blades of the ceiling fan not to be considered obstructions.

The committee agrees with the submitter, but further wants to seek input from the obstruction task group on the obstruction created by the motor housing.

The committee rejects the annex text since it is not the intent of NFPA 13R to apply the obstruction rules of NFPA 17.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-53 Log #5 AUT-RSS
(6.7.1.5.5 (new) [1999: 2.5.1.7.5])

Final Action: Accept

SUBMITTER: Wayne Clark Gey, Wayne Automatic Fire Sprinklers

RECOMMENDATION: Add new section - (based on 2002 ROP 13-117)

2-5.1.7.5 Ceiling Pockets.

2-5.1.7.5.1 Sprinklers shall be required in all ceiling pockets.

2-5.1.7.5.2 The requirements of Section 2-5.1.7.5.1 shall not apply where all of the following requirements are met:

(a) The total volume of the unprotected ceiling pocket does not exceed 100 cu. ft.

(b) The depth of the unprotected ceiling pocket does not exceed 12 in.

(c) The entire floor of the unprotected ceiling pocket is protected by the sprinklers at the lower ceiling elevation.

(d) Each unprotected ceiling pocket is separated from any adjacent unprotected ceiling pocket by a minimum 10 ft horizontal distance.

(e) The unprotected ceiling pocket is constructed of noncombustible or limited combustible construction.

SUBSTANTIATION: This proposal should not be viewed as an attempt to compromise proper, effective fire sprinkler coverage in residential dwelling units. The purpose is to eliminate nuisance situations where AHJ's require additional sprinklers for insignificant ceiling voids. The language of this proposal for residential sprinklers is based generally on the changes made in the 2002 edition of NFPA 13 addressing ceiling pockets in applications of standard sprinklers.

The proposed maximum pocket volume and depth values have been greatly reduced from the NFPA 13 quantities. There is no rigorous scientific basis for the reduced values. It is simply assumed that if the 1000 cubic ft and 36 in. restrictions have been found to be acceptable for say, a light hazard office space, then there should be no problem with the lesser values in a residential setting. The proposed dimensions have been reduced to a magnitude that should have minimal impact on residential sprinkler operation, yet eliminate all truly insignificant ceiling voids from consideration in most practical applications.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 25 Negative: 1

BALLOT NOT RETURNED: 1 BAKER

EXPLANATION OF NEGATIVE:

YU: Item 13R-52 proposes that the limit for the total unprotected ceiling pocket volume be 100 ft³, which is rather arbitrary. In residential dwellings, rooms of about 100-ft² are common, where the response of sprinklers at a lower ceiling elevation could be severely delayed. No supporting data is available to show otherwise.

COMMENT ON AFFIRMATIVE

KILLEY: Recommendation: To Delete 2-5.1.7.5.2(b) only and to re-format the remaining requirements with numbers instead of the current proposed letters.

2-5.1.7.5.2 (b) The depth of the unprotected ceiling pocket does not exceed 12 in.

Substantiation: The ceiling pocket is already restricted to not exceed 100 cu. ft. and it should not matter if pocket size is deeper than 12 inches as long as it does not exceed the 100 cu. ft. Deleting this would also make the wording match the currently accepted proposal 13D-71 Log#44 which brings some form of consistency with the ceiling pocket conditions. Changing the letters to numbers also brings this in line with the other 13R and 13D formats.

13R-54 Log #52 AUT-RSS
(6.7.2.3)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Delete "not exceeding 10 ft in height" from the section.

SUBSTANTIATION: There is no technical reason to limit the height at which residential sprinklers can be used. This statement appears to be left over from a

time when caution was expressed in the listing regarding the height of the ceiling where the sprinklers were placed, but that note in the listing was eliminated years ago.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-55 Log #13 AUT-RSS
(6.8.2)

Final Action: Reject

SUBMITTER: Chad E. Beebe, Washington State Department of Health

RECOMMENDATION: Revise text to read:

6.8.2* In other than Limited Care Facilities, sprinklers shall not be required in bathrooms where both of the following conditions are met.

SUBSTANTIATION: In limited care facilities we often see high amounts of combustible materials located in resident bathrooms such as wicker, and particle board shelving units. It has been difficult to control the possible ignition sources. A sprinkler required in these spaces would help mitigate any potential problems.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: NFPA 13R is a standard and does address specific occupancy conditions.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-56 Log #56 AUT-RSS
(6.8.2)

Final Action: Reject

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Revise 6.8.2 to add a third condition as follows:

"Sprinklers shall not be required in bathrooms where ~~both~~ all of the following conditions are met:

(1) <no change>

(2) <no change>

(3) The bathroom is not beneath a stairwell used as a means of egress.

SUBSTANTIATION: It is a common practice to place a "powder room" under a stairway that is the only means of egress from an upper floor. A fire in such an unsprinkled space would compromise the means of egress.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: It is not the intent of NFPA 13D to require sprinklers in small bathrooms regardless of location.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-57 Log #60 AUT-RSS
(6.8.2)

Final Action: Reject

SUBMITTER: Paul Bohres Boynton Beach, FL

RECOMMENDATION: Delete the entire text of Section 6.8.2.

SUBSTANTIATION: Small bathrooms (<55 ft²) can be used as storage closets where storage space is limited in a dwelling unit. The storage increases the hazard.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The submitter provided no data to support proposed change.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-58 Log #CP4 AUT-RSS
(6.8.2)

Final Action: Accept

SUBMITTER: Technical Committee on Residential Sprinkler Systems

RECOMMENDATION: Delete item (2).

SUBSTANTIATION: It is the intent of the committee that only the 55 sq. ft limit be met to omit sprinklers in bathrooms.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-59 Log #7 AUT-RSS
(6.8.3)

Final Action: Reject

SUBMITTER: Sheila Miller, Clallam County DCD

RECOMMENDATION: 6.8.3 says a closet does not need sprinkler protection if you use “non-combustible or limited-combustible materials as defined by...” which send you on a wild-goose chase talking about btu’s and bulb tests.
SUBSTANTIATION: Suggest you revise the text to read “non-combustible or limited combustible materials, such as 1/2 in. gypsum wallboard, or other materials as defined by...” [wild-goose chase]. Everyone I asked, said the testing meant using 1/2 in. GWB was sufficient. Why not save us time and just say what everyone is using?

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee does not want to specify specific acceptable design arrangements, but the specific requirements that the arrangement must comply with.

It is the position of the committee that 1/2 inch gypsum wall board would comply with the requirements.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-60 Log #51 AUT-RSS
(6.8.3 and 6.8.4 (new))

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Revise 6.8.3 to add the following at the front of the sentence and insert a new 6.8.4 and renumber existing 6.8.4, 6.8.5, and 6.8.6.

“6.8.3 Except where specified in 6.8.4, sprinklers shall not be required in clothes closets ...

6.8.4 Sprinklers shall be installed in any closet used for heating and air conditioning equipment.”

SUBSTANTIATION: This question gets asked so often, it needs to be directly addressed in the standard. Heaters and air conditioning equipment, even when non-fuel fired, can produce significant heat. When stored in a closet with other combustibles, such as clothes, that heat can lead to fire ignition.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 24 Negative: 2

BALLOT NOT RETURNED: 1 BAKER

EXPLANATION OF NEGATIVE:

L. BROWN: In agreement with Negative Ballot comment submitted by Ron Nickson. Mr Nickson’s Comment is substantiated by the Comment submitted by Mr. Killey.

NICKSON: Not data submitted to show that there is a problem. The wording could be confusing, requiring the installation of a sprinkler in a closet with HVAC ductwork.

COMMENT ON AFFIRMATIVE

KILLEY: Recommendation: Revise wording in 6.8.4.

6.8.4 Sprinklers shall be installed in any closet used for heating and air conditioning mechanical equipment.

Substantiation: Any closet containing mechanical equipment should be protected. This also brings the wording in line with the currently accepted proposal 13R-51 Log 18.

SCHIRMER: Assumes remainder of 6.8.3. in present standard follows “closets”.

13R-61 Log #14 AUT-RSS
(6.8.4)

Final Action: Reject

SUBMITTER: Chad E. Beebe, Washington State Department of Health

RECOMMENDATION: Revise text to read:

In other than limited care facilities, sprinklers shall not be required in any porches, balconies, corridors, and stairs that are open and attached.

SUBSTANTIATION: In limited care facilities (or board and care), porches have been the location of several small fires. When the main means of egress is often through the porch or corridor this has posed a potential problem for the occupants that have impaired mobility.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: NFPA 13R is a standard and does address specific occupancy conditions.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-62 Log #11 AUT-RSS
(6.8.4 (New))

Final Action: Reject

SUBMITTER: James Everitt, Western Regional Fire Code Development Committee

RECOMMENDATION: Add a new section to read:

6.8.4 Sprinklers shall not be required in any porches, balconies, corridors, and stairs that are open and attached in buildings not over two stories in height.
SUBSTANTIATION: A.1.2 states that from 1986-1990 1,800 fires occurred in exterior balconies or open porches leading to 69 injuries. As these exterior paths are primary egress paths, it seems reasonable to exclude three stories and more as jumping from a three story building is reasonable.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: It is the intent of the committee to permit sprinklers to be omitted in accordance with section 6.8.4 for all structures within the scope of NFPA 13R.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-63 Log #55 AUT-RSS
(6.8.5)

Final Action: Accept in Part

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: 1. Delete “elevator equipment rooms” from the list of items where sprinklers can be omitted.

2. Change “elevator shafts” to “noncombustible elevator shafts where the elevator cars comply with ANSI A17.1.”

SUBSTANTIATION: Sprinklers are needed in elevator equipment rooms.

The exception for shaft is similar to the exception in NFPA 13.

This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept in Part

Reject Item #1

Accept Item #2

COMMITTEE STATEMENT: The committee rejects item 1 as no data was submitted to require sprinklers in machine rooms.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-64 Log #8 AUT-RSS
(6.8.6)

Final Action: Reject

SUBMITTER: Peter T. Schwab, Wayne Automatic Fire Sprinklers, Inc

RECOMMENDATION: Current text reads:

6.8.6 Sprinklers shall not be required in closets on exterior balconies, regardless of size, as long as there are no doors or unprotected penetrations from the closet directly into the dwelling unit.

Revise to read:

6.8.6 Sprinklers shall not be required in dedicated dwelling unit closets on dwelling unit exterior balconies, regardless of size, as long as there are no doors or unprotected penetrations from the closet directly into the dwelling unit.

SUBSTANTIATION: Small individual storage closets intended for use by dwelling unit tenants are often located outside of the dwelling units wherever space is available. The most convenient arrangement is usually to locate the closets on breezeways. In terms of freeze protection, the closets face the same conditions whether located on the dwelling unit balcony or on a breezeway.

However, in terms of life safety and giving occupants time to get out of the building, the prospect of a fire on the building breezeway is more daunting than one on a dwelling unit balcony.

The proposal maintains the status quo for the omission of dwelling unit balcony closet sprinklers. The wording added is intended to clearly communicate that this sprinkler omission applies only to dedicated dwelling unit closets, not closets on breezeways or elsewhere.

Closets on breezeways will require sprinkler coverage. In the majority of applications freeze protection will be a concern for such sprinklers, adding cost and complexity. Owners will have to bear the additional financial burden or rethink their floor plans.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The submitter provided no data to support the addition of sprinklers in these closets.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-65 Log #29 AUT-RSS
(6.8.6)

Final Action: Reject

SUBMITTER: James Everitt, Western Regional Fire Code Development Committee

RECOMMENDATION: Delete 6.8.6.

SUBSTANTIATION: A fire not controlled in these spaces could gain entry into the dwelling unit or other areas. Almost all attached homes have some manner of patio or balcony and most of these offer auxiliary storage space at the patio. Further, many such closets contain the water heater or other heating appliances for that dwelling. Seasonal storage of plastic furniture, grill accessories and fuels, and other miscellaneous household items, especially in the potential company of heat or combustion sources, represents too great a risk to merit arbitrary exclusion of these closets from the protected area.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The submitter provided no data to support the addition of sprinklers in these closets.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-66 Log #35 AUT-RSS
(6.8.6)

Final Action: Reject

SUBMITTER: Stephen M. Leyton, Protection Design and Consulting

RECOMMENDATION: Revise as follows:

6.8.6 Sprinklers shall not be required in closets or exterior balconies where subject to freezing, as long as there are no doors or unprotected penetrations from the closet directly into the dwelling unit.

6.8.6.1 Where water heaters or other heat-producing appliances are located within closets on exterior balconies, they shall be protected by quick-response spray sprinklers of the appropriate temperature rating.

SUBSTANTIATION: The use of exterior balcony closets may vary from region to region, depending on weather and lifestyle issues. In warmer climates, these rooms are commonly used for the storage of wood and plastic furniture. BBQ accessories such as fuels and starter fluid. Similar compartments containing appliances such as water heaters and furnaces are required to be protected when they occur within the dwelling units and there is no logical reason to exclude these areas as there is potential for fire spread from floor to floor if they are unprotected, especially when hazardous and combustible items are stored in proximity to potential sources of ignition.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The intent of the committee is to not require sprinklers regardless of the potential of freezing.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-67 Log #59 AUT-RSS
(6.8.7)

Final Action: Reject

SUBMITTER: Edward Yongsun Lee, Omnitech Engineering Inc.

RECOMMENDATION: Additional new text to be inserted in NFPA 13R under Section 6.8.7.

6.8.7 Sprinklers shall not be required for ceiling pockets that meet following conditions:

- (1) The total volume of unprotected ceiling pocket does not exceed 1000 ft³
- (2) The entire floor under the unprotected ceiling pocket is protected by the sprinklers at the lower ceiling elevation.
- (3) Each unprotected ceiling pocket is separated from any adjacent unprotected ceiling pocket by a minimum 10 ft horizontal distance.
- (4) The unprotected ceiling pocket is constructed of noncombustible or limited combustible construction.
- (5) Skylights not exceeding 32 ft² shall be permitted to have a plastic cover.

SUBSTANTIATION: Reference used for Proposal

1. Current text n NFPA 13-2002 under 8.6.7

8.6.7 Ceiling Pockets

8.6.7.1 Sprinklers shall be required in all ceiling pockets.

8.6.7.2 The requirements of 8.6.7.1 shall not apply where all of the following are met:

- (1) The total volume of the unprotected ceiling pocket does not exceed 1000 ft³
 - (2) The depth of the unprotected pocket does not exceed 36 in.
 - (3) The entire floor under the unprotected ceiling pocket is protected by the sprinklers at the lower ceiling elevation.
 - (4) Each unprotected ceiling pocket is separated from any adjacent unprotected ceiling pocket by a minimum 10 ft horizontal distance.
 - (5) The unprotected ceiling pocket is constructed of noncombustible or limited combustible construction.
 - (6) Skylights not exceeding 32 ft² shall be permitted to have a plastic cover.
 - (7) Quick response sprinklers are utilized throughout the compartment.
- Ceiling pockets and skylights are popular features for residential occupancies

covered under 13R. NFPA 13r does not adequately cover sprinkler requirements for ceiling pockets, suitable to Residential Occupancy applicable to 13R. Proposed new text is taken from NFPA 13-2002 section 8.6.7 under "Ceiling Pockets".

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The material utilized to develop the requirements in NFPA 13 was based upon comparing standard response to quick response sprinklers. The committee does not feel that the comparison is valid. The submitter is encouraged to provide data to address the potential delays in activation for residential sprinklers.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-68 Log #70 AUT-RSS
(A.1.1)

Final Action: Accept

SUBMITTER: Marcelo M. Hirschler, GBH International

RECOMMENDATION: Revise as follows:

A.1.1 NFPA 13R is appropriate for use as an option to NFPA 13, Standard for the Installation of Sprinkler Systems, only in those residential occupancies, as defined in this standard, up to and including four stories in height. It is the intent of this standard that if NFPA 13R is appropriate for use, that it be used throughout the entire building. It is recognized that an occupancy incidental to the operations of the residential occupancy might exist within that residential occupancy. Such incidental occupancy would be considered part of the predominant (residential) occupancy and subject to the provisions of the predominant (residential) occupancy by 6.1.14.2 of NFPA 101®, Life Safety Code®, and similar provisions in many local building and fire codes. Use of NFPA 13R throughout the entire building in this case is allowed.

Where buildings are greater than four stories in height, or where buildings are of mixed use where residential is not the predominant occupancy, residential portions of such buildings should be protected with residential or quick-response sprinklers in accordance with 8.4.5 of NFPA 13. Other portions of such buildings should be protected in accordance with NFPA 13. Where buildings of mixed use can be totally separated so that the residential portion is considered a separate building under the local code, NFPA 13R can be used in the residential portion, while NFPA 13 is used in the rest of the building.

The criteria in this standard are based on full-scale fire tests of rooms containing typical furnishings found in residential living rooms, kitchens, and bedrooms. The furnishings were arranged as typically found in dwelling units in a manner similar to that shown in Figure A.1.1(a), Figure A.1.1(b), and Figure A.1.1(c). Sixty full-scale fire tests were conducted in a two-story dwelling in Los Angeles, California, and 16 tests were conducted in a 14 ft (4.3 m) wide mobile home in Charlotte, North Carolina. Sprinkler systems designed and installed according to this standard are expected to prevent flashover within the compartment of origin where sprinklers are installed in the compartment. A sprinkler system designed and installed according to this standard cannot, however, be expected to completely control a fire involving fuel loads that are significantly higher than average for dwelling units [10 lb/ft² (49 kg/m²)], configurations of fuels other than those with typical residential occupancies, or conditions where the interior finish has an unusually high flame spread rating index (greater than 225).

To be effective, sprinkler systems installed in accordance with this standard need to open the sprinklers closest to the fire before the fire exceeds the ability of the sprinkler discharge to extinguish or control the fire. Conditions that allow the fire to grow beyond that point before sprinkler activation or that interfere with the quality of water distribution can produce conditions beyond the capabilities of the sprinkler system described in this standard. Unusually high ceilings or ceiling configurations that tend to divert the rising hot gases from sprinkler locations or change the sprinkler discharge pattern from its standard pattern can produce fire conditions that cannot be extinguished or controlled by the systems described in this standard.

SUBSTANTIATION: This proposal simply changes the terminology to the correct usage of flame spread index, without making any technical changes.

COMMITTEE MEETING ACTION: Accept

Only accept the change to "index" make no other changes.

COMMITTEE STATEMENT: The committee intends to only change to Index.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-69 Log #22 AUT-RSS
(A.5.3.2(1))

Final Action: Reject

SUBMITTER: Gary L. Johnson, Noveon, Incorporated

RECOMMENDATION: Add new text after the end of the first paragraph as follows:

Antifreeze systems are defined as smaller area(s) that are subject to freezing that are supplied by a wet system. Such antifreeze systems should never be used throughout a complete system or building (even if the volume is less than 40 gal.).

SUBSTANTIATION: Contractors have been installing systems in apartment buildings using glycerin throughout the building in lieu of wet systems that are properly insulated. This practice (untested by UL) has resulted in numerous glycerin leaks. By adding this sentence, proper insulation will be added, or design alternative will be used that will minimally hold with glycerin behind them.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: The committee does not want to eliminate the potential use of an antifreeze system throughout the building.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-70 Log #27 AUT-RSS
(A.5.3.3)

Final Action: Reject

SUBMITTER: Gary L. Johnson, Noveon, Incorporated

RECOMMENDATION: Add new text as follows:

CPVC can only be painted with Latex paint. Oil base paints are not compatible with CPVC.

SUBSTANTIATION: This clarification is needed for AHJ reference.

COMMITTEE MEETING ACTION: Reject

COMMITTEE STATEMENT: There are currently some oil based paints that are permitted to be applied to CPVC pipe.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-71 Log #21 AUT-RSS
(A.6.3.2)

Final Action: Accept in Principle

SUBMITTER: Gary L. Johnson, Noveon, Incorporated

RECOMMENDATION: Add new text as follows:

"...unless specifically allowed by the manufacturer(s) of both the pipe and the fittings in their approved installation instructions."

SUBSTANTIATION: Compressed air or compressed gas never should be used for pressure testing CPVC piping. Because of technology developments and water damage issues, allowance needs to be made to allow air testing or dry system maintenance using CPVC when done in accordance with the manufacturer's previously tested and listed procedures.

COMMITTEE MEETING ACTION: Accept in Principle

Add new text as follows:

"...unless specifically allowed by the manufacturer(s) of both the pipe and the fittings in their installation instructions."

COMMITTEE STATEMENT: Editorially delete the term approved.

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-72 Log #42 AUT-RSS
(A.6.6.4 (New))

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: Add a new annex note A.6.6.4 as follows:

A.6.6.4 The fire department connection should be connected to the system riser. For single systems it is an acceptable arrangement to attach the fire department connection to any point in the system provided the pipe is at least as large as the riser.

SUBSTANTIATION: Good guidance is given in NFPA 13 (A.8.16.2.4.1) and is also helpful in NFPA 13R. This proposal was developed by the NFSA Engineering and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-73 Log #44 AUT-RSS
(A.6.7.1.5.3)

Final Action: Accept

SUBMITTER: Cecil Bilbo, National Fire Sprinkler Association

RECOMMENDATION: The last paragraph of this section (starts "Measurement from the deepest point...") needs to be made subsection "d" under part 2.

SUBSTANTIATION: This paragraph is only intended to apply to part 2 of the note. If no additional floor area is created by the feature (part 1) no additional requirements are necessary.

This proposal was developed by the NFSA Engineer and Standards Committee.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER

13R-74 Log #3 AUT-RSS
(A.6.7.1.5.3 [1999: A.2.5.1.7.3])

Final Action: Accept

SUBMITTER: Wayne Clark Gey, Wayne Automatic Fire Sprinklers

RECOMMENDATION: The proposed code modification/addition would require the partial incorporation of A-2-5.1.7.3 into the actual body of the Standard, and the addition of a new section, 2-5.1.7.4.

(Modified 2-5.1.7.3)

2-5.1.7.3* Sprinklers shall be positioned so that the response time and discharge are not unduly affected by obstructions such as ceiling slope, beams, or light fixtures. Small areas created by architectural features such as planter box windows, bay windows, and similar features shall be evaluated as follows:

(a) Where no additional floor area is created by the architectural feature, no additional sprinkler protection is required.

(b) Where additional floor area is created by an architectural feature, no additional sprinkler protection is required, provided all of the following conditions are met.

(1) The floor area does not 18 square ft.

(2) The floor area is not greater than 2 ft in depth at the deepest point of the architectural feature to the plane of the primary wall where measured along the finished floor.

(3) The floor is not greater than 9 ft in length where measured along the plane of the primary wall.

(4) Measurement from the deepest point of the architectural feature to the sprinkler shall not exceed the maximum listed spacing of the sprinkler.

(c) The hydraulic design is not required to consider the area created by the architectural feature.

A-2-5.1.7.3 Fire testing has indicated the need to wet walls in the area protected by residential sprinklers at a level closer to the ceiling than that accomplished by standard sprinkler distribution. Where beams, light fixtures, sloped ceilings and other obstructions occur, additional residential sprinklers could be necessary to achieve proper response and distribution, and a greater water supply could be necessary. Table A-2-5.1.7.3 and Figure A-2-5.1.7.3 provide guidance for the location of sprinklers near ceiling obstructions.

Table A-2-5.1.7.3 Positioning of Sprinklers to Avoid Obstructions to Discharge (UNCHANGED)

Figure A-2-5.1.7.3 Position of deflector, upright or pendent, where located above bottom of ceiling obstruction (UNCHANGED)

(UNCHANGED COMMENTARY ON 2-5.1.7.3)

(NEW)

2-5.1.7.4* Except as otherwise permitted in 2-5.1.7.3 and 2-5.1.8, residential sprinklers shall provide in conjunction with survivability enhancement, complete coverage of the floor area within the compartment.

Exception: Small potentially blocked or shadowed floor areas shall be permitted on a horizontal plane in compartments of 800 square ft or less so long as all of the following conditions are met:

For purposes of simplified calculations, assume in this theoretical case that the water discharging from a sprinkler travels in a straight line only.

(a) The maximum area of any single individual contiguous shadowed floor area, regardless of geometric configuration, shall not exceed 3 square ft.

(b) The maximum area summation of any number of individual shadowed floor areas shall not exceed 12 square ft per compartment

(c) The maximum total summation of shadowed floor areas and allowances made by 2-5.1.7.3 shall not exceed 30 square ft per dwelling unit.

A-2-5.1.7.4

Modern multiple family building floor plans incorporate certain architectural characteristics or features that may initially seem to make absolute coverage of every single square ft of floor area a challenge. These features include angled walls, wing walls, slightly indented walls and various soffit configurations.

The "problem" arises when one erroneously considers water discharging from a residential sprinkler to travel only in an absolute straight line, as if it were beams of light. When this approach is taken, small (1 to 3 sq ft) typically triangular "shadowed areas" may be in theory formed on the floor adjacent to these referenced architectural features. The shadowed areas are purely on paper and do not take into account the dynamic variables affecting sprinkler discharge and distribution. It is hardly conceivable that anything located within one of these areas could remain dry during adjacent sprinkler discharge. The Committee recognizes that such small theoretically shadowed floor areas are not an issue. Residential sprinkler distribution patterns are specifically intended to provide superior wall-wetting capability. Survivability of the occupants is more dependent on such wall-wetting than on absolute floor coverage.

Though not specifically referenced as such, in fact [NFPA 13](#) already permits an appreciable amount of "shadowing" by way of the basic obstruction figures and tables for various sprinkler applications. Take for example Figure 5-8.5.2.2 Minimum distance from obstruction (extended coverage upright and pendent spray sprinklers). Consider a residential sprinkler spaced ten ft off of wall. A twelve-in. round column located in the direction of the wall and four ft away from the sprinkler would create an allowable "shadowed" area of approximately 8.6 square ft, using the line-of-sight approach.

The intent of Standard 13R is to provide economically viable, flashover preventing, survivability enhancing residential sprinkler layouts. It is not the intent of NFPA to require additional sprinklers for these 1 to 3 square ft areas.

Additionally, the methods described within 2-5.1.7.4 are not intended for any use outside of this specific residential dwelling unit application.

SUBSTANTIATION: This proposal should not be viewed as an attempt to compromise proper, effective fire sprinkler coverage in residential dwelling units. High-level wall wetting would likely be accomplished regardless of the presence of these small shadowed floor areas. Tenable conditions relating to maintaining maximum gas layer temperatures are likely to be achieved as well.

The practical impact of the difficulty in correctly positioning sprinklers in these applications should be taken into consideration. The water discharging from a sprinkler does not travel like beams of light. However, in the field we find ourselves being directed by AHJ's to provide additional sprinklers to "protect" little 1 to 3 square ft triangular floor areas that are supposedly going to somehow remain dry. These additional sprinklers look ridiculous and aren't going to materially enhance the level of fire protection in dwelling units.

COMMITTEE MEETING ACTION: Accept

NUMBER ELIGIBLE TO VOTE: 27

BALLOT RESULTS: Affirmative: 26

BALLOT NOT RETURNED: 1 BAKER