



National Fire Protection Association

1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

MEETING AGENDA

High Rise Building Safety Advisory Committee

March 22-23, 2018

Double Tree by Hilton Hotel - Toronto

1. **Call to Order.** Call the meeting to order by Chair, Jim Quiter, at 9:00 am on Thursday, March 22, 2018.
2. **Introduction of Attendees.** For a current committee roster. **See pg. 02.**
3. **Approval of Minutes.** Approve the minutes of the January 22, 2018 Web/teleconference meeting. **See pg. 03.**
4. **EAP Update.**
5. **HRB-SAC Priority Subjects.**
 - A. Elevators - Australian Document regarding the use of elevators for occupant evacuation.
 - i. Outline Information Available.
 - ii. Determine Process for Moving Forward.
 - B. Building Under Construction.
 - i. James Shea and Jack Murphy to present recommendations on Information they have gathered.
6. **Retrofit of High-Rise Sprinklers. See pg. 5.**
 - A. Review of document and determine how to proceed.
7. **E-Vault.**
 - A. Real time data exchange update.
8. **New Business.**
9. **Next Meeting.**
10. **Adjournment.**

Address List No Phone

03/14/2018
Valerie Boutin
HRB-TAC

High Rise Building Safety Advisory Committee

James R. Quiter Chair Arup 560 Mission Street, Floor 7 San Francisco, CA 94105 Safety to Life Correlating Committee	SE 9/30/2004 HRB-TAC	Geoff Craighead Principal Allied Universal 1551 North Tustin Avenue, Suite 650 Santa Ana, CA 92705	SE 7/19/2005 HRB-TAC
John M. Esposito Principal Fire Department City of New York 15 Einstein Place Smithtown, NY 11787-4909	L 09/23/2015 HRB-TAC	Jon D. Magnusson Principal Magnusson Klemencic Associates 1301 Fifth Avenue, Suite 3200 Seattle, WA 98101-2699 National Council of Structural Engineers Assns.	SE 9/30/2004 HRB-TAC
John P. Miller Principal Los Angeles City Fire Department Battalion 17 "A" Platoon 200 North Main Street Los Angeles, CA 90012	L 4/22/2005 HRB-TAC	Jack J. Murphy Principal Fire Safety Directors Association of Greater New York 236 Overlook Avenue Leonia, NJ 07605-1519 Fire Safety Directors Association of Greater New York	U 9/30/2004 HRB-TAC
Jake Pauls Principal Jake Pauls Consulting Services 255 Glenlake Avenue, Suite 2207 Toronto, ON M6P 1G2 Canada American Public Health Association	C 9/30/2004 HRB-TAC	Sally Regenhard Principal The Skyscraper Safety Campaign 131 East 237 Street PO Box 70 Woodlawn, NY 10470 Alternate: Charles R. Jennings	C 9/30/2004 HRB-TAC
James P. Shea Principal Multiplex Construction Canada Ltd. Exchange Tower 130 King Street, West, Suite 2350 Toronto, ON M5X 2A2 Canada	U 3/1/2011 HRB-TAC	William A. Stewart Principal 873 Whitney Drive Mississauga, ON L4Y 1E6 Canada Metropolitan Fire Chiefs-IAFC/NFPA	E 3/19/2007 HRB-TAC
Peter A. Weismantle Principal Adrian Smith + Gordon Gill Architecture LLP Director of Supertall Building Technology 111 West Monroe, Suite 2300 Chicago, IL 60603-4017 Council on Tall Buildings & Urban Habitat	SE 03/06/2014 HRB-TAC	Charles R. Jennings Alternate John Jay College of Criminal Justice City University of New York 229 Nelson Avenue Peekskill, NY 10566 The Skyscraper Safety Campaign Principal: Sally Regenhard	C 12/1/2006 HRB-TAC
Valerie Boutin Staff Liaison National Fire Protection Association (NFPA) One Batterymarch Park Quincy, MA 02169	1/10/2017 HRB-TAC		



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**MEETING MINUTES
High Rise Building Safety Advisory Committee
January 22, 2018
Web/Teleconference**

- 1. **Call to Order.** The meeting was called to order by Chair, Jim Quiter, at 2:00 pm on Monday, January 22, 2018.
- 2. **Introduction of Attendees.** For a current committee roster. **See pg. 03.**

The following committee members were present:

NAME	REPRESENTING
James R. Quiter, Chair	Arup
Valerie Boutin, Staff Liaison	NFPA Staff
Geoff Craighead, Principal	Allied Universal
John M. Esposito, Principal	Fire Department City of New York
Jon D. Magnusson, Principal	Magnusson Klemencic Associates – Rep. National Council of Structural Engineers Association
John P. Miller, Principal	Los Angeles City Fire Department
Jack J. Murphy, Principal	Fire Safety Directors Association of Greater New York
Jake Pauls, Principal	Jake Pauls Consulting Services – Rep. American Public Health Association
James P. Shea, Principal	Brookfield Multiplex Europe
William A. Stewart, Principal	Metropolitan Fire Chiefs-IAFC/NFPA
Peter A. Weismantle, Principal	Adrian Smith + Gordon Gill Architecture LLP - Rep. Council on Tall Buildings & Urban Habitat

The following committee members were not present:

NAME	REPRESENTING
Charles Jennings, Alternate	John Jay College of Criminal Justice
Sally Regenhard, Principal	The Skyscraper Safety Campaign

3. **Approval of Minutes.** The minutes of the 2017 August 24 meeting were approved as distributed.
4. **EAP Update.** The technical content of the EAP is complete. NFPA is in the process of finalizing the document and it will hopefully be posted by the end of March. The existing EAP may be reimagined to match the new EAP.

5. **HRB-SAC Priority Subjects.**

A. Elevators

- i. V. Boutin will reach out to the NFPA library for existing research that can be distributed to the committee
- ii. Goal for March Meeting:
 - a. Clear outline of what information is already available
 - b. Determine process for moving forward

B. Building Under Construction

- i. J. Shea and J. Murphy are leading
- ii. J. Shea is gathering information from around his company on what they do
- iii. J. Murphy has reviewed NFPA 241 and has some recommendations
- iv. J. Shea and J. Murphy will combine their work and the information will be circulated

6. **New Business.**

A. Retrofit of High-Rise Sprinklers.

- i. Sprinkler retrofit of High-Rise buildings is still a problem
 - a. Typically the ordinance comes from the City
 - b. V. Boutin will circulate a document that has the sprinkler requirements for the 2018 Edition of NFPA 1 and NFPA 101
 - c. The committee will review and determine how to proceed at the March meeting

B. E-Vault.

- i. C. Grant informed the committee of an upcoming project regarding real time data exchange for emergency responders
 - a. Looking to find the best way to get the necessary real time information to the Incident Commander in a format they can use
 - b. Some committee members volunteered to help with the project. C. Grant will follow up with those that volunteered

7. **Next Meeting.** The next meeting will be in Toronto on March 22-23.

8. **Adjournment.** The meeting was adjourned at 3:00 pm on Monday, January 22, 2018.

Sprinkler High Rise Requirements

2018 Life Safety Code

Chapter 11:

11.1.1 Application. The requirements of Sections 11.1 through 11.11 shall apply to occupancies regulated by Chapters 12 through 42 that are in a special structure. The applicable provisions of Chapters 12 through 42 shall apply, except as modified by this chapter. Section 11.8 shall apply to all new high-rise buildings. Section 11.8 shall apply to existing high-rise buildings only where specifically required by Chapters 12 through 42.

11.8.3 Extinguishing Requirements.

11.8.3.1* High-rise buildings shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7. A sprinkler control valve and a waterflow device shall be provided for each floor.

A.11.8.3.1 Where an occupancy chapter (Chapter 12 through 42) permits the omission of sprinklers in specific spaces, such as small bathrooms and closets in residential occupancies, the building is still considered to be protected throughout for the purposes of 11.8.3.1.

Chapter 13: Existing Assembly

13.4.4 High-Rise Buildings. Existing high-rise buildings that house assembly occupancies in high-rise portions of the building shall have the highest level of the assembly occupancy and all levels below protected by an approved, supervised automatic sprinkler system in accordance with Section 9.7 (See also 13.1.6).

Chapter 15: Existing Educational

15.4.2 High-rise Buildings. High-rise buildings shall comply with 11.8.3.1.

Chapter 17: Existing Day- Care

17.4.2 High-Rise Buildings. High-rise buildings that house day-care occupancies on floors more than 75 ft (23 m) above the lowest level of fire department vehicle access shall comply with Section 11.8.

Chapter 19: Existing Health Care

19.3.5.2 High-rise buildings shall comply with 19.4.2

19.4.2 High-Rise Buildings.

19.4.2.1 All high-rise buildings containing health care occupancies shall be protected throughout by an approved, supervised automatic sprinkler system installed in accordance with Section 9.7 within 12 years of the adoption of this *Code*, except as otherwise provided in 19.4.2.3, 19.4.2.4, or 19.4.2.4.

19.4.2.2* Where a jurisdiction adopts this edition of the *Code* and previously adopted the 2015 edition, the sprinklering required by 19.4.2.1 shall be installed within 9 years of the adoption of this *Code*.

A.19.4.2.2 The provision of 19.4.2.2 is intended to prevent the phase-in period for the installation of sprinklers from being reset to 12 years upon adoption of the 2018 edition of the *Code* in jurisdictions where the 12-year period had already begun via the adoption of the 2015 edition.

19.4.2.3* Where a jurisdiction adopts this edition of the *Code* and previously adopted the 2012 edition, the sprinklering required by 19.4.2.1 shall be installed within 6 years of the adoption of this *Code*.

A.19.4.2.3 The provision of 19.4.2.3 is intended to prevent the phase-in period for the installation of sprinklers from being reset to 12 years upon adoption of the 2018 edition of the *Code* in jurisdictions where the 12-year period had already begun via the adoption of the 2012 edition.

19.4.2.4* Where a jurisdiction adopts this edition of the *Code* and previously adopted the 2009 edition, the sprinklering required by 19.4.2.1 shall be installed within 3 years of the adoption of this *Code*.

A.19.4.2.4 The provision of 19.4.2.4 is intended to prevent the phase-in period for the installation of sprinklers from being reset to 12 years upon adoption of the 2018 edition of the *Code* in jurisdictions where the 12-year period had already begun via the adoption of the 2009 edition.

Chapter 21: Existing Ambulatory Health Care

21.4.2 High-Rise Buildings.

21.4.2.1 All high-rise buildings shall be provided with a reasonable degree of safety from fire, and such degree of safety shall be accomplished by one of the following means:

- (1) Installation of a complete, approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1)
- (2) Installation of an engineered life safety system complying with all of the following:
 - a. The engineered life safety system shall be developed by a registered professional engineer experienced in fire and life safety systems design.
 - b. The life safety system shall be approved by the authority having jurisdiction and shall be permitted to include any or all of the following systems:
 - i. Partial automatic sprinkler protection
 - ii. Smoke detection alarms
 - iii. Smoke control
 - iv. Compartmentation
 - v. Other approved systems

21.4.2.2* A limited, but reasonable, time shall be permitted for compliance with any part of 21.4.2.1, commensurate with the magnitude of expenditure and the disruption of services.

A.21.4.2.2 In some cases, appreciable cost might be involved in bringing an existing occupancy into compliance. Where this is true, it would be appropriate for the authority having jurisdiction to prescribe a schedule determined jointly with the facility, allowing suitable periods of time for the correction of the various deficiencies and giving due weight to the ability of the owner to secure the necessary funds.

21.4.2.3 In addition to the requirements of 21.4.2.1 and 21.4.2.2, all buildings, regardless of height, shall comply with all other applicable provisions of this chapter.

Chapter 23: Existing Detention & Correctional

23.3.5 Extinguishment Requirements

23.3.5.1 High-rise buildings shall comply with 23.4.3

23.4.3 High-Rise Buildings. Existing high-rise buildings shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 23.3.5.3. A sprinkler control valve and a waterflow device shall be provided for each floor.

Chapter 29: Existing Hotel & Dormitories

29.3.5 Extinguishment Requirements.

29.3.5.1 All high-rise buildings, other than those where each guest room or guest suite has exterior exit access in accordance with 7.5.3, shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 29.3.5.3.

29.4.1 High-Rise Buildings.

29.4.1.1 High-rise buildings shall comply with 29.3.5.1.

Chapter 31: Existing Apartments

31.3.5.12 High-Rise Building Sprinklers

- a. The engineered life safety system shall be developed by a registered professional engineer experienced in fire and life safety systems design.
- b. The life safety system shall be approved by the authority having jurisdiction and shall be permitted to include any or all of the following systems:
 - i. Partial automatic sprinkler protection
 - ii. Smoke detection alarms
 - iii. Smoke control
 - iv. Elevators
 - v. Compartmentation
 - vi. Other approved systems

39.4.2.2* A limited, but reasonable, time shall be permitted for compliance with any part of 39.4.2.1, commensurate with the magnitude of expenditure and the disruption of services.

A.39.4.2.2 In some cases, appreciable cost might be involved in bringing an existing occupancy into compliance. Where this is true, it would be appropriate for the authority having jurisdiction to prescribe a schedule determined jointly with the facility, allowing suitable periods of time for the correction of the various deficiencies and giving due weight to the ability of the owner to secure the necessary funds.

39.4.2.3 In addition to the requirements of 39.4.2.1 and 39.4.2.2, all buildings, regardless of height, shall comply with all other applicable provisions of this chapter.

39.4.2.4 High-rise buildings shall comply with 11.8.9 for integrated fire protection and life safety system testing.

Chapter 40: Industrial

40.4.2 High-Rise Buildings.

40.4.2.1 New high-rise industrial occupancies shall comply with Section 11.8.

40.4.2.2 The provisions of 11.8.5.3.4(1) for jockey pumps and 11.8.5.3.4(2) for air compressors serving dry-pipe and preaction systems shall not apply to special-purpose industrial occupancies.

Chapter 42: Storage

42.4.2 High-Rise Buildings. New high-rise storage occupancies shall comply with Section 11.8.

42.8.4 Special Provisions – High-Rise Buildings.

42.8.4.1 The provisions of Section 11.8 shall not apply to new high-rise, open parking structures, except as otherwise required by 42.8.4.2

42.8.4.2 The provisions of 11.8.3 shall apply to new high-rise, open parking structures.

2018 Fire Code Requirements

13.3.2.12 Existing Health Care Occupancies.

13.3.2.12.2 All high-rise buildings containing health care occupancies shall be protected throughout by an approved, supervised automatic sprinkler system installed in accordance with Section 13.3 within 12 years of the adoption of this *Code*, except as otherwise provided in 13.3.2.12.3 or 13.3.2.12.4.

[101:19.4.2.1]

13.3.2.12.3 Where a jurisdiction adopts this edition of the *Code* and previously adopted the 2015 edition, the sprinklering required by 13.3.2.12.2 shall be installed within 9 years of the adoption of this *Code*. [101:19.4.2.2]

13.3.2.12.4 Where a jurisdiction adopts this edition of the *Code* and previously adopted the 2012 edition, the sprinklering required by 13.3.2.12.2 shall be installed within 6 years of the adoption of this *Code*. [101:19.4.2.3]

13.3.2.16 Existing Hotels and Dormitories.

13.3.2.16.1 All high-rise buildings, other than those where each guest room or guest suite has exterior exit access in accordance with 7.5.3 of NFPA 101, shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.16.2. [101:29.3.5.1]

13.3.2.22 Existing Residential Board and Care Facilities.

13.3.2.22.1.3 High-Rise Buildings. All high-rise buildings shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.22.1. Such systems shall initiate the fire alarm system in accordance with 13.7.1.4. [101:33.3.3.5.3]

13.3.2.24

13.3.2.24.1 Mercantile occupancies, other than one-story buildings that meet the requirements of a street floor as defined in 3.3.281, shall be protected by an approved automatic sprinkler system in accordance with 9.7.1.1(1) in any of the following specified locations:

- (1) Throughout all mercantile occupancies with a story over 15,000 ft² (1400 m²) in area
- (2) Throughout all mercantile occupancies exceeding 30,000 ft² (2800 m²) in gross area
- (3) Throughout stories below the level of exit discharge where such stories have an area exceeding 2500 ft² (232 m²) and are used for the sale, storage, or handling of combustible goods and merchandise
- (4) Throughout multiple occupancies protected as mixed occupancies in accordance with 6.1.14 where conditions of 37.3.5.1(10), (2), or (3) apply to the mercantile occupancy [101:37.3.5.1]

13.3.2.26 High-Rise Buildings

13.3.2.26.2* Existing high-rise buildings shall be protected throughout by an approved automatic sprinkler system in accordance with this chapter and 13.3.2.26.2.1 through 13.3.2.26.2.3.

A.13.3.2.26.2 The enabling legislation adopting this *Code* should specify a specific date for compliance with 13.3.2.26.2. Building owners and managers should be notified of this requirement within 180 days of code adoption. The following items should be considered by the AHJ as guidance in evaluating compliance plans:

- (1) Shortage of qualified contractors to install sprinkler systems
- (2) Impact on owners and tenants as a result of existing conditions contained in lease agreements
- (3) Environmental constraints resulting from contaminated material being removed from limited areas of the building during installation of sprinklers and attendant activity
- (4) Available time to install sprinklers in the occupied spaces

31.3.5.12.1 All high-rise buildings, other than those meeting 31.3.5.12.2 or 31.3.5.12.3, shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 31.3.5.2

31.3.5.12.2 An automatic sprinkler system shall not be required where every dwelling unit has exterior exit access in accordance with 7.5.3.

31.3.5.12.3* An automatic sprinkler system shall not be required in buildings having an approved, engineered life safety system in accordance with 31.3.5.12.4

A.31.3.5.12.3 This system might consist of a combination of any or all of the following systems:

- (1) Partial automatic sprinkler protection
- (2) Smoke detection systems
- (3) Smoke control systems
- (4) Compartmentation or other approved systems, or both

31.3.5.12.4 Where required by 31.3.5.12.3, an engineered life safety system shall be developed by a registered professional engineer experienced in fire and life safety system design, shall be approved by the authority having jurisdiction, and shall include any or all of the following:

- (1) Partial automatic sprinkler protection
- (2) Smoke detection systems
- (3) Smoke control systems
- (4) Compartmentation
- (5) Other approved systems

31.4.1 High-Rise Buildings.

31.4.1.1 High-rise buildings shall comply with 31.2.11.1 and 31.3.5.11

Commented [BV1]: Needs to be updated to 31.3.5.12 I think

Chapter 33: Existing Residential Board & Care

33.3.3.5.3 High-Rise Buildings. All high-rise buildings shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 33.3.3.5. Such systems shall initiate the fire alarm system in accordance with Section 9.6.

Chapter 37: Existing Mercantile

37.3.5.1 Mercantile occupancies, other than one-story buildings that meet the requirements of a street floor as defined in 3.3.281, shall be protected by an approved automatic sprinkler system in accordance with 9.7.1.1(1) in any of the following specified locations:

- (1) Throughout all mercantile occupancies with a story over 15,000 ft² (1400 m²) in area
- (2) Throughout all mercantile occupancies exceeding 30,000 ft² (2800 m²) in gross area
- (3) Throughout stories below the level of exit discharge where such stories have an area exceeding 2500 ft² (232 m²) and are used for the sale, storage, or handling of combustible goods and merchandise
- (4) Throughout multiple occupancies protected as mixed occupancies in accordance with 6.1.14 where conditions of 37.3.5.1(10), (2), or (3) apply to the mercantile occupancy

37.4.2 High-Rise Buildings. (No additional requirements.)

Chapter 39: Existing Business

39.4.2 High-Rise Buildings.

39.4.2.1 All high-rise business occupancy buildings shall be provided with a reasonable degree of safety from fire, and such degree of safety shall be accomplished by one of the following means:

- (1) Installation of a complete, approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1)
- (2) Installation of an engineered life safety system complying with all of the following:

- (5) Financial constraints of owners being able to fund the cost of installing automatic sprinklers with associated costs
- (6) Ability of the owner to coordinate general building remodeling with the actual sprinkler retrofit process

13.3.2.26.2.1 Each building owner shall, within 180 days of receiving notice, file an intent to comply with this regulation with the AHJ for approval.

13.3.2.26.2.2 The AHJ shall review and respond to the intent-to-comply submittal within 60 days of receipt.

13.3.2.26.2.3* The entire building shall be required to be protected by an approved automatic sprinkler system within 12 years of adoption of this *Code*.

A.13.3.2.26.2.3 Examples of retrofit schedules can include the following:

- (1) Plan submitted and approved within 1 year; 33 percent of square footage completed within 4 years; 66 percent of square footage completed within 8 years; 100 percent of square footage completed within 12 years.
- (2) Plans submitted and approved with 1 year; all common areas completed within 4 years; 50 percent of remaining area completed within 8 years; 100 percent of remaining area completed within 12 years.
- (3) An alternative schedule can be approved by the AHJ that does not have any intermediary stages but has to be 100 percent complete within 8 years.

Commented [BV2]: Has been in since 2000 Edition
Section 7-3.2.21
Always been 12 years