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

MEETING MINUTES
High Rise Building Safety Advisory Committee
(HRB-SAC)

November 20, 2013
Teleconference/Web Meeting
1:00-4:00pm EST

1 . **Call to Order.**

The teleconference/Web meeting was called to order by Chair, Jim Quiter, at 1:00 pm EST on Wednesday, November 20, 2013.

2. **Introduction of Attendees.**

The following members participated in the teleconference:

NAME	Representing
James R. Quiter, Chair	Arup
Kristin Bigda, Staff Liaison	NFPA
Jon D. Magnusson, Principal	Magnusson Klemencic Associates – Rep. National Council of Structural Engineers Associations
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 in Building Use and Safety – Rep. American Public Health Association
James P. Shea, Principal	Brookfield Multiplex Europe
Charles R. Jennings Alternate to S. Regenhard	John Jay College of Criminal Justice – Rep. The Skyscraper Safety Campaign

The following Principal members did not participate:

NAME	REPRESENTING
Geoff Craighead, Principal	Universal Protection Service

Steven N. Niles, Principal	Goettsch Partners – Rep. Council on Tall Buildings & Urban Habitat
Sally Regenhard, Principal (Alternate attended)	The Skyscraper Safety Campaign
William A. Stewart, Principal	Metropolitan Fire Chiefs-IAFC/NFPA

3. **Approval of Minutes.**

   The minutes of the 2013 April 2-3 meeting were approved as written.

4. **Status of NFPA 1/101/5000.**

   The proposed public comments on video monitoring were accepted by the Technical Committee on Fundamentals and will be included in the 2015 editions of NFPA 101 and NFPA 5000 (pending any NITMAMs that may be received.) The Second Revision text can be found in **Attachment A**.

5. **Status of EAP Guide.**

   The EAP Guide will be posted to the high rise building page on nfpa.org by the end of the year; it will be distributed to the committee first. The committee provided recommendations for who should be notified about the final document. These included: CTBUH, BOMA, NIST, ASIS, NFPA regional representatives, ADA (Allan Fraser at NFPA), SFPE. In addition, K. Bigda will work with NFPA staff to communicate about the release of the document.

   The committee also discussed reviewing and revising the document (as necessary) after every NFPA 101/NFPA 5000 revision cycle to ensure the document is up to date with these documents and current industry practice.

6. **Future HRBSAC Action Items.**

   The committee discussed the list of future topics that were distributed with the meeting agenda. Four items were selected as topics of interest to the committee. K. Bigda will discuss further with J. Quiter and R. Solomon and then distribute the final list and any additional information to the committee.

7. **Next Meeting.**

   The next meeting will be held as a teleconference/web meeting in February 2014 (1 hour) to review the final list of future topics and action items for the committee. The next in-person meeting is tentatively scheduled for the spring of 2014 in Chicago, IL. Meeting dates will be forthcoming.

8. **Adjournment.**

The meeting was adjourned at 2:30 pm EST by Chair Jim Quiter.

Meeting Minutes Prepared By:

Kristin Bigda, NFPA Staff

ATTACHMENT A

Second Revision No. 24-NFPA 101-2013 [Section No. 11.8.5.2.4]

11.8.5.2.4

The standby power system shall be connected to the following:

(1) Electric fire pump

(2) Jockey pump, except as otherwise provided in 40.4.2 for special-purpose industrial occupancies

(3) Air compressor serving dry-pipe and pre-action systems, except as otherwise provided in 40.4.2 for special-purpose industrial occupancies

(4) Emergency command center equipment and lighting

(5) Not less than one elevator serving all floors, with standby power transferable to any elevator

(6) Mechanical equipment for smokeproof enclosures

(7) Mechanical equipment required to conform with the requirements of Section 9.3

(8) Stairway video monitoring equipment as required by 11.8.8

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 22 14:45:22 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: Standby power is needed for the new video monitoring equipment added in section 11.8.8.
Response Message:

Ballot Results

This item has passed ballot

28 Eligible Voters
2 Not Returned
18 Affirmative All
1 Affirmative with Comments
7 Negative with Comments
0 Abstention

Not Returned
Gaubert, Marshall J.

Saba, Patrick S.

Affirmative All

Blum, Andrew
Carson, Wayne G.
Cheng, Amy Y.
DiCristina, Salvatore
Doebler, Tod
Eugene, Robert J.
Gencarelli, Michael O.
Groner, Norman E.
Laramee, Scott T.
Lathrop, James K.
Lovell, Vickie J.
McNamara, Jack
Murga, Ricardo
Pitts, Dennis L.
Reiswig, Rodger
Speed, Robert A.
Valentine, Victoria B.
Wydeveld, Steven F.

Affirmative with Comment

Pauls, Jake
See my affirmative ballot comment on SR-20.

Negative with Comment

Alfawakhiri, Farid
see comment on SR-20

Frable, David W.
See comment on SR-20.

Gerdes, Ralph D.
I do not understand how video monitoring will improve one's ability to evacuate the building. This requirement appears to have less to do with immediate needs and more to do with future research.

Hurley, Morgan J.
See negative ballot on SR-23.

Jacoby, David J.
See comment SR-20 regarding stairwell video monitoring

Klein, David P.
I agree with the comments from David Frable, Morgan Hurley, David Jacoby, and Milosh Puchovsky.

Puchovsky, Milosh T.
No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 23-NFPA 101-2013 [Section No. 11.8.6.2]

11.8.6.2

The emergency command center shall contain the following:

(1) Voice fire alarm system panels and controls

(2) Fire department two-way telephone communication service panels and controls where required by another section of this *Code*

(3) Fire detection and fire alarm system annunciation panels

(4) Elevator floor location and operation annunciators

(5) Elevator fire recall switch in accordance with ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*

(6) Elevator emergency power selector switch(es) where provided in accordance with ASME A17.1/CSA B44

(7) Sprinkler valve and waterflow annunciators

(8) Emergency generator status indicators

(9) Controls for any automatic stairway door unlocking system

(10) Fire pump status indicators

(11) Telephone for fire department use with controlled access to the public telephone system

(12) Stairway video monitoring equipment as required by 11.8.8

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 22 14:40:44 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: Item is necessary in recognition of new 11.8.8.
Response Message:

Ballot Results

✔ **This item has passed ballot**

28 Eligible Voters
2 Not Returned
18 Affirmative All

1 Affirmative with Comments

7 Negative with Comments

0 Abstention

Not Returned

Gaubert, Marshall J.

Saba, Patrick S.

Affirmative All

Blum, Andrew

Carson, Wayne G.

Cheng, Amy Y.

DiCristina, Salvatore

Doebler, Tod

Eugene, Robert J.

Gencarelli, Michael O.

Groner, Norman E.

Laramee, Scott T.

Lathrop, James K.

Lovell, Vickie J.

McNamara, Jack

Murga, Ricardo

Pitts, Dennis L.

Reiswig, Rodger

Speed, Robert A.

Valentine, Victoria B.

Wydeveld, Steven F.

Affirmative with Comment

Pauls, Jake

See my affirmative ballot comment on SR-20.

Negative with Comment

Alfawakhiri, Farid

see comment on SR-20

Frable, David W.

See comment on SR-20.

Gerdes, Ralph D.

I do not understand how video monitoring will improve one's ability to evacuate the building. This requirement appears to have less to do with immediate needs and more to do with future research.

Hurley, Morgan J.

First, the requirement is ambiguous. It calls for cameras at the level of exit discharge and at least every five stories above the level of exit discharge. These cameras would display on monitor(s) in the emergency command center. What is not clear is how many monitor(s) should be provided. One per camera? A single monitor that alternates between potentially in excess of a hundred cameras? If a single monitor, how frequently should it alternate between cameras? If there is a single monitor and more than a hundred cameras, and the scanning frequency is five seconds, each camera would only be viewed every eight minutes, so the data from these cameras would be of limited utility. Without identifying how the images from the video cameras would be displayed, this new requirement would be difficult to apply and enforce. Secondly, and more importantly, exactly HOW the information obtained by the stairway video monitoring equipment would be used is not identified. Similarly, no substantiation of the need for this system is provided by the professionals that might actually use it. Instead, the substantiation seems to focus more on how the system would address privacy concerns.

Jacoby, David J.

See comment SR-20 regarding stairwell video monitoring

Klein, David P.

I agree with the comments from David Frable, Morgan Hurley, David Jacoby, and Milosh Puchovsky.

Puchovsky, Milosh T.

No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 20-NFPA 101-2013 [New Section after 11.8.7]

11.8.8 Stairway Video Monitoring.

11.8.8.1* General.

11.8.8.1.1

For high-rise buildings having an occupant load of 4,000 or more persons, real-time remote monitoring of exit stair usage shall be provided in accordance with 11.8.8.2 through 11.8.8.4 and shall be displayed at the emergency command center.

11.8.8.1.2

Where the monitoring system is integrated with a security system, the security system shall be in accordance with NFPA 731 , *Standard for the Installation of Electronic Premises Security Systems* .

11.8.8.1.3

Where the monitoring system includes video cameras also used for video image smoke detection, the portions of the system used for such detection shall be in accordance with *NFPA 72* , *National Fire Alarm and Signaling Code* .

11.8.8.2

Approved video monitoring equipment shall be provided at the exit stairs immediately adjacent to exit stairway discharge doors to capture discharge from, entry to, and passage through the discharge floor landing.

11.8.8.3

Approved video monitoring equipment shall be provided for exit stairs above the level of exit discharge, at building height intervals not exceeding 5 stories, so that descent and ascent flows on the stairways, at the floor entry landings, can be remotely monitored.

11.8.8.4

Approved video monitoring equipment shall be provided, at locations stipulated by the authority having jurisdiction, for exit stairs below the level of exit discharge where levels are normally occupied by the public.

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 22 14:34:21 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: FR-465 The proposed text of 11.8.8 provides additions to the current provision of the code that have the potential to help the fire service, other fire safety personnel and building management to effectively monitor and manage egress during an emergency in a building. The use of equipment that would provide real time data to building's emergency command centers could lead to better direction of building evacuations and provide the ability for the command center to see conditions throughout the building. This would allow building officials and the fire service to observe if an egress route has become untenable and where they can most effectively redistribute occupants in the building, thus increasing the levels of life safety to occupants throughout the building. A concern regarding privacy of occupants has been raised in the past.

However, in a report, “Public Perceptions of High-Rise Building Safety and Emergency Evacuation Procedures” completed for HRB-SAC in 2007 by the Fire Protection Research Foundation, it was found that very few persons have concern over privacy issues if their exit stairwells were equipped with video cameras. When asked about their level of concern over privacy issues if the exit stairwells in their building were equipped with video cameras to permit monitoring of stairwells during evacuations, about nine out of ten respondents (89 percent) reported they would not be concerned at all. Of the remaining, 7 percent reported they would be somewhat concerned and 3 percent would be very concerned. The High Rise Building Safety Advisory Committee (HRB-SAC) concluded that while this language would provide the ability to better manage and control egress through real-time management, at this time it is only feasible for it to be included in new high-rise buildings with occupant loads of over 4000. The topic of improving situation awareness of what happens in exit stairs during an evacuation is seen as an important topic with regards to occupant life safety and one worthy of new attention in the Code. The proposed language is being submitted for the high-rise building section, 11.8, as the proposed text is strictly a high rise building issue and should be located, along with the other high rise specific issues in the Code. The HRB-SAC committee recognizes that Section 11.8 is applicable to all new high-rise buildings, thus the intent of proposed text is to be applicable to new buildings only. Several issues were highlighted in response to the proposed text regarding video monitoring that was submitted during the Public Input stage. This committee has carefully reviewed and evaluated the concerns and responses that were outlined and has addressed all applicable issues in this submission along with the proposed corresponding Annex language (See Section A.11.8.8.1.) The language has been revised from the Public Input stage to more clearly identify the requirements and installation of video monitoring equipment, how it can interface with a building security system, and where it needs to be located. Along with that, references to NFPA 731 and NFPA 72 have been added, as the expert documents on the installation of premises security systems and detection systems. NFPA 731 can be used to provide guidance for combined security and video monitoring systems. The proposed Annex language addresses the benefits of such a system, the performance of the system, and sample design solutions. In addition, the proposed Annex language provides operational criteria that should be taken into consideration when designing and installing the video monitoring equipment. It was not of the opinion of this committee that specific operational and performance criteria be identified in the body of the Code. The performance and operation of the system should be verified with the AHJ to best meet the needs of the building. This public input was prepared by the NFPA High Rise Building Safety Advisory Committee. The HRB-SAC members are: James Quiter (Chair), Arup Geoff Craighead, Universal Protection Service Jon Magnusson, National Council of Structural Engineers Associations John Miller, Los Angeles City Fire Department Jack Murphy, Fire Safety Directors Association of Greater New York Steven Nilles, Council on Tall Buildings and Urban Habitat Jake Pauls, American Public Health Association Jim Shea, Tishman Speyer William Stewart, Metropolitan Fire Chiefs-IAFC Sally Regenhard, The Skyscraper Safety Campaign Charles Jennings (Alternate to Regenhard), The Skyscraper Safety Campaign Kristin Bigda, NFPA Staff HRB-SAC is an advisory committee established by the NFPA Standards Council to advise the association, and especially the association’s technical committees, on all safety issues related to high rise buildings. HRBSAC Ballot Results for This Public Input: 10 Eligible to vote 9 Affirmative Votes (C. Jennings for S. Regenhard) 1 Not Returned (S. Nilles) Comment on Affirmative: J.Miller – As a fire service professional for over 35-years, these recommendations will have significant positive impact on public safety in high-rise buildings. Post 9/11, the fire service has been challenged with the spontaneous evacuation of buildings during emergency incidents. The ability to observe in “real time: the conditions of stairwells and need to focus and immediately assign personnel to locations where the influx of building evacuees has restricted access or the inability for egress will greatly assist the Incident Commander, emergency personnel, and building staff in strategically managing and controlling evacuation efforts and provide for greater life safety of the building occupants in high occupancy buildings.

Response Message:

Public Comment No. 129-NFPA 101-2013 [New Section after 11.8.7]

Ballot Results

This item has passed ballot

28 Eligible Voters
2 Not Returned
19 Affirmative All
1 Affirmative with Comments

6 Negative with Comments

0 Abstention

Not Returned

Gaubert, Marshall J.

Saba, Patrick S.

Affirmative All

Blum, Andrew

Carson, Wayne G.

Cheng, Amy Y.

DiCristina, Salvatore

Doebler, Tod

Eugene, Robert J.

Gencarelli, Michael O.

Groner, Norman E.

Hurley, Morgan J.

Laramee, Scott T.

Lathrop, James K.

Lovell, Vickie J.

McNamara, Jack

Murga, Ricardo

Pitts, Dennis L.

Reiswig, Rodger

Speed, Robert A.

Valentine, Victoria B.

Wydeveld, Steven F.

Affirmative with Comment

Pauls, Jake

The proposals on exit stair monitoring were submitted by NPFA?s High Rise Building Safety Advisory Committee (HRBSAC, on which I serve) after a great deal of consideration and related work, most notably on the new NFPA EAP guide from which excerpts are provided below. HRBSAC has broader expertise on high rise safety, in relation to fire and other emergencies, than the FUN TC negative balloters appear to posses. Regarding the monitor display system (noted by Mr. Hurley), in my presentation, to both HRBSAC and the FUN TC, I illustrated how a display system could be arranged on a single screen to show, simultaneously, continuously, and in real time, the images from multiple cameras. Modern display systems, as used ubiquitously in video-based security systems, utilize high-definition screens that can easily display scores of very clear images simultaneously. I explained that one option, easily implemented with current technology, is to have individual images active only if there was activity (e.g., people movement, smoke movement, etc.) captured by a camera to help draw attention only to the relevant areas of the stair system. Clearly, the application of widely-used technologies (video and otherwise, such as access control systems) is late in being applied to building evacuation systems and those voting against the HRBSAC proposals want to delay that application even more. HRBSAC has taken a multi-pronged approach, especially with so much of its effort being applied to planning, management, and process issues, such as covered in detail in the EAP guide, excerpted here (with underlining added). Guidelines to Developing Emergency Action Plans (EAP) for All-Hazard Emergencies in High-Rise Office Buildings Section 4 OCCUPANT EVACUATION STRATEGIES 4.1 General. 4.1.1 Various potential threats to a building may require best practice emergency management so as not to delay moving people to a safe area. This includes provision for an effective means of initiating, monitoring, and managing the evacuation of a high-rise building, where a large number of people could be at risk. 4.1.2 The evacuation of occupants in a building?s exit stairs should be monitored to facilitate effective management of egress capacity, including prioritization of egress for those occupants in greater danger. . . . . 4.2.3.2 The EAP should identify the safest and most efficient means of evacuating persons from the building or designated floors or areas thereof. Priority should be given to building occupants on floors or other areas of the building most at risk of harm and, in the designation of exit routes, to the avoidance of congestion that would delay the movement of those with priority. The EAP should also ensure that prioritization is actually accomplished (e.g., by implementing provisions for exit stair monitoring, such as video systems, monitored from the Emergency Command Center). . . . . 6.2.3 Evaluation. Tests should be conducted to

evaluate the preparedness and capabilities of occupants and life safety staff (e.g., through ?fire drills?). Available stair monitoring system recordings, especially of occupant use of exit stairs, should be used to assess performance and attain realistic expectations of what can be accomplished in an actual emergency.

Negative with Comment

Alfawakhiri, Farid

I am changing my vote to negative in support of the arguments provided by Frable, Jacoby and Puchovsky.

Frable, David W.

Conceptually, the proposal to install video cameras in high-rise building exit stairways has the potential to provide useful information to first responders in monitoring occupant evacuation during a building emergency. However, as written, the proposal language may create enforcement issues as well as design issues because the language has not specified any specific operational or performance criteria for the video monitoring equipment. This lack of critical information will lead to designers questioning what operational and performance criteria needs to be met as well as what acceptance criteria is needed for the authority having jurisdiction to approve such systems. In addition, no acceptance test criterion for the video monitoring equipment has been provided to assist the authority of jurisdiction in their approval process. Lastly, the requirement for installing the video monitoring equipment in a high-rise building having an occupant load factor of 4,000 or more persons has not been sufficiently justified since building height should be the key determining factor for installing such equipment within a building and not occupant load since this requirement is proposed in the high-rise building section of the Code. For example, it is possible that this requirement could require a building less than 120 feet in height (which is typically not a very tall building) having an occupant load of 4,000 persons, to require video monitoring equipment within the exit stairs.

Gerdes, Ralph D.

I do not understand how video monitoring will improve one's ability to evacuate the building. This requirement appears to have less to do with immediate needs and more to do with future research.

Jacoby, David J.

Stairwell monitoring installation is not well defined and adds more cost and complexity for the potential benefit. The system requires a trained person to be able to intepret the iformation in real time and relay the information to occupants and responders. Training, staffing and proper installation guides do not currently exist.

Klein, David P.

I agree with the comments from David Frable, David Jacoby, and Milosh Puchovsky.

Puchovsky, Milosh T.

No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 22-NFPA 101-2013 [New Section after A.11.8.6]

A.11.8.8.1

With video systems, such as standard CCTV security systems typically installed in high-rise buildings, real-time images of occupants' and emergency responders' presence and movement (or lack thereof) in exits, especially at multiple locations of the same exit stairway, can provide critical information about current and developing conditions that should be taken into account in emergency management in accordance with the building's Emergency Action Plan.

Having video cameras positioned to capture images of an exit stairway, including just prior to the discharge doorway from the exit, provides information on the number and flow (in persons per minute, for example) of the occupants, among other information, including access by responding fire fighters using stairs if elevators are not available. It is not essential that the camera views and image resolution be sufficient to identify specific individuals. Depending on the context (including security applications), such specific-person identification might be essential, desirable, undesirable or forbidden. For post-incident evaluation and analysis of egress performance, it is helpful to have image quality and camera angle such that the lateral and front-to-back positions of individuals, relative to the stair width, are clear.

For example, a high-rise building could have cameras at the ground level (assuming this is the level of exit discharge) and at every fifth floor above, and perhaps below grade, for each of the exit stairs. As well as providing a reasonable sampling of evacuee presence and movement within the exit stair system (information important for real-time situation awareness), a comparison of times at which particular individuals pass different cameras provides important data on evacuation movement speed and (indirectly) average occupant density, in addition to flow and number of evacuees overall.

When designing and installing a video monitoring system, and in conjunction with the authority having jurisdiction, the following items should be considered in the operation of the system:

(1) Inspection, testing, and maintenance of equipment

(2) Duration/hours of operation

(3) Storage and retention of information

(4) Activation of the system

(5) Integration with the building's emergency action plan

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 22 14:36:57 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: The proposed text of 11.8.8 provides additions to the current provision of the code that have the potential to help the fire service, other fire safety personnel and building management to effectively monitor and manage egress during an emergency in a building. The use of equipment that would provide real time data

to building's emergency command centers could lead to better direction of building evacuations and provide the ability for the command center to see conditions throughout the building. This would allow building officials and the fire service to observe if an egress route has become untenable and where they can most effectively redistribute occupants in the building, thus increasing the levels of life safety to occupants throughout the building. A concern regarding privacy of occupants has been raised in the past. However, in a report, "Public Perceptions of High-Rise Building Safety and Emergency Evacuation Procedures" completed for HRB-SAC in 2007 by the Fire Protection Research Foundation, it was found that very few persons have concern over privacy issues if their exit stairwells were equipped with video cameras. When asked about their level of concern over privacy issues if the exit stairwells in their building were equipped with video cameras to permit monitoring of stairwells during evacuations, about nine out of ten respondents (89 percent) reported they would not be concerned at all. Of the remaining, 7 percent reported they would be somewhat concerned and 3 percent would be very concerned. The High Rise Building Safety Advisory Committee (HRB-SAC) concluded that while this language would provide the ability to better manage and control egress through real-time management, at this time it is only feasible for it to be included in new high-rise buildings with occupant loads of over 4000. The topic of improving situation awareness of what happens in exit stairs during an evacuation is seen as an important topic with regards to occupant life safety and one worthy of new attention in the Code. The proposed language is being submitted for the high-rise building section, 11.8, as the proposed text is strictly a high rise building issue and should be located, along with the other high rise specific issues in the Code. The HRB-SAC committee recognizes that Section 11.8 is applicable to all new high-rise buildings, thus the intent of proposed text is to be applicable to new buildings only. Several issues were highlighted in response to the proposed text regarding video monitoring that was submitted during the Public Input stage. This committee has carefully reviewed and evaluated the concerns and responses that were outlined and has addressed all applicable issues in this submission along with the proposed corresponding Annex language (See Section A.11.8.8.1.) The language has been revised from the Public Input stage to more clearly identify the requirements and installation of video monitoring equipment, how it can interface with a building security system, and where it needs to be located. Along with that, references to NFPA 731 and NFPA 72 have been added, as the expert documents on the installation of premises security systems and detection systems. NFPA 731 can be used to provide guidance for combined security and video monitoring systems. The proposed Annex language addresses the benefits of such a system, the performance of the system, and sample design solutions. In addition, the proposed Annex language provides operational criteria that should be taken into consideration when designing and installing the video monitoring equipment. It was not of the opinion of this committee that specific operational and performance criteria be identified in the body of the Code. The performance and operation of the system should be verified with the AHJ to best meet the needs of the building. This public input was prepared by the NFPA High Rise Building Safety Advisory Committee. The HRB-SAC members are: James Quiter (Chair), Arup Geoff Craighead, Universal Protection Service Jon Magnusson, National Council of Structural Engineers Associations John Miller, Los Angeles City Fire Department Jack Murphy, Fire Safety Directors Association of Greater New York Steven Nilles, Council on Tall Buildings and Urban Habitat Jake Pauls, American Public Health Association Jim Shea, Tishman Speyer William Stewart, Metropolitan Fire Chiefs-IAFC Sally Regenhard, The Skyscraper Safety Campaign Charles Jennings (Alternate to Regenhard), The Skyscraper Safety Campaign Kristin Bigda, NFPA Staff HRB-SAC is an advisory committee established by the NFPA Standards Council to advise the association, and especially the association's technical committees, on all safety issues related to high rise buildings. HRBSAC Ballot Results for This Public Input: 10 Eligible to vote 9 Affirmative Votes (C. Jennings for S. Regenhard) 1 Not Returned (S. Nilles) Comment on Affirmative: J.Miller – As a fire service professional for over 35-years, these recommendations will have significant positive impact on public safety in high-rise buildings. Post 9/11, the fire service has been challenged with the spontaneous evacuation of buildings during emergency incidents. The ability to observe in "real time: the conditions of stairwells and need to focus and immediately assign personnel to locations where the influx of building evacuees has restricted access or the inability for egress will greatly assist the Incident Commander, emergency personnel, and building staff in strategically managing and controlling evacuation efforts and provide for greater life safety of the building occupants in high occupancy buildings.

Response Message:

Public Comment No. 130-NFPA 101-2013 [New Section after A.11.8.6]

Ballot Results

✔ **This item has passed ballot**

28 Eligible Voters
2 Not Returned
19 Affirmative All
1 Affirmative with Comments
6 Negative with Comments
0 Abstention

Not Returned
Gaubert, Marshall J.
Saba, Patrick S.

Affirmative All
Blum, Andrew
Carson, Wayne G.
Cheng, Amy Y.
DiCristina, Salvatore
Doebler, Tod
Eugene, Robert J.
Gencarelli, Michael O.
Groner, Norman E.
Hurley, Morgan J.
Laramee, Scott T.
Lathrop, James K.
Lovell, Vickie J.
McNamara, Jack
Murga, Ricardo
Pitts, Dennis L.
Reiswig, Rodger
Speed, Robert A.
Valentine, Victoria B.
Wydeveld, Steven F.

Affirmative with Comment
Pauls, Jake
See my affirmative ballot comment on SR-20.

Negative with Comment
Alfawakhiri, Farid
see comment on SR-20
Frable, David W.
See comment on SR-20.
Gerdes, Ralph D.
I do not understand how video monitoring will improve one's ability to evacuate the building.
Jacoby, David J.
See comment SR-20
Klein, David P.
I agree with the comments from David Frable, David Jacoby, and Milosh Puchovsky.
Puchovsky, Milosh T.
No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address

the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 72-NFPA 5000-2013 [Section No. 33.3.4.2.4]

33.3.4.2.4

The standby power system shall be connected to the following:

(1) Electric fire pump

(2) Jockey pump

(3) Air compressor serving dry-pipe and pre-action systems

(4) Emergency command center equipment and lighting

(5) Not less than one elevator serving all floors, with standby power transferable to any elevator

(6) Mechanical equipment for smokeproof enclosures

(7) Mechanical equipment required to conform to the requirements of Chapter 50

(8) Stairway video monitoring as required by 33.3.8

Submitter Information Verification

Submitter Full Name: Ron Coté
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Thu May 30 15:35:24 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: Standby power is needed for the video monitoring equipment addressed in 33.3.8.
Response Message:

Ballot Results

This item has passed ballot

28 Eligible Voters
1 Not Returned
20 Affirmative All
1 Affirmative with Comments
6 Negative with Comments
0 Abstention

Not Returned
Gaubert, Marshall J.

Affirmative All

Blum, Andrew
Carson, Wayne G.
Cheng, Amy Y.
DiCristina, Salvatore
Doebler, Tod
Eugene, Robert J.
Gencarelli, Michael O.
Groner, Norman E.
Hurley, Morgan J.
Laramee, Scott T.
Lathrop, James K.
Lovell, Vickie J.
McNamara, Jack
Murga, Ricardo
Pitts, Dennis L.
Reiswig, Rodger
Saba, Patrick S.
Speed, Robert A.
Valentine, Victoria B.
Wydeveld, Steven F.

Affirmative with Comment

Pauls, Jake
See my affirmative comment on SR-71.

Negative with Comment

Alfawakhiri, Farid
see comment on SR-71
Frable, David W.
See Comment SR-71
Gerdes, Ralph D.
I do not understand how video monitoring will improve one's ability to evacuate the building.
Jacoby, David J.
See SR-71
Klein, David P.
I agree with the comments from David Frable, David Jacoby, and Milosh Puchovsky.
Puchovsky, Milosh T.
No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 73-NFPA 5000-2013 [New Section after 33.3.5.5]

33.3.5.6
The stairway video monitoring equipment required by 33.3.8 shall be provided within the emergency command center.

Submitter Information Verification

Submitter Full Name: Ron Coté
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Thu May 30 15:39:33 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: The requirement for the stairway video monitoring equipment to be within the emergency command center is being placed in its own numbered paragraph as the lists in 33.3.5.4 and 33.3.5.5 of other items associated with the emergency command center are extracted from NFPA 1.

Response Message:

Ballot Results

✔ **This item has passed ballot**

28 Eligible Voters
1 Not Returned
19 Affirmative All
1 Affirmative with Comments
7 Negative with Comments
0 Abstention

Not Returned
Gaubert, Marshall J.

Affirmative All
Blum, Andrew
Carson, Wayne G.
Cheng, Amy Y.
DiCristina, Salvatore
Doebler, Tod
Eugene, Robert J.

Gencarelli, Michael O.
Groner, Norman E.
Laramee, Scott T.
Lathrop, James K.
Lovell, Vickie J.
McNamara, Jack
Murga, Ricardo
Pitts, Dennis L.
Reiswig, Rodger
Saba, Patrick S.
Speed, Robert A.
Valentine, Victoria B.
Wydeveld, Steven F.

Affirmative with Comment

Pauls, Jake
See my affirmative comment on SR-71.

Negative with Comment

Alfawakhiri, Farid
see comment on SR-71
Frable, David W.
See Comment SR-71
Gerdes, Ralph D.
I do not understand how video monitoring will improve one's ability to evacuate the building.
Hurley, Morgan J.
See negative ballot on SR-71.
Jacoby, David J.
See SR-71
Klein, David P.
I agree with the comments from David Frable, Morgan Hurley, David Jacoby, and Milosh Puchovsky.
Puchovsky, Milosh T.
No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 71-NFPA 5000-2013 [New Section after 33.3.7]

33.3.8 Stairway Video Monitoring.

33.3.8.1* General.

33.3.8.1.1 _

For high-rise buildings having an occupant load of 4,000 or more persons, real-time remote monitoring of exit stair usage shall be provided in accordance with 33.3.8.2 through 33.3.8.4 and shall be displayed at the emergency command center.

33.3.8.1.2 _

Where the monitoring system is integrated with a security system, the security system shall be in accordance with NFPA 731 , *Standard for the Installation of Electronic Premises Security Systems* .

33.3.8.1.3 _

Where the monitoring system includes video cameras also used for video image smoke detection, the portions of the system used for such detection shall be in accordance with NFPA 72 , *National Fire Alarm and Signaling Code* .

33.3.8.2 _

Approved video monitoring equipment shall be provided at the exit stairs immediately adjacent to exit stairway discharge doors to capture discharge from, entry to, and passage through the discharge floor landing.

33.3.8.3 _

Approved video monitoring equipment shall be provided for exit stairs above the level of exit discharge, at building height intervals not exceeding five stories, so that descent and ascent flows on the stairways and at the floor entry landings can be remotely monitored.

33.3.8.4 _

Approved video monitoring equipment shall be provided, at locations stipulated by the AHJ, for exit stairs below the level of exit discharge where levels are normally occupied by the public.

Submitter Information Verification

Submitter Full Name: Ron Coté
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Thu May 30 15:29:16 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: The proposed text of 33.3.8 provides additions to the current provision of the code that have the potential to help the fire service, other fire safety personnel and building management to effectively monitor and manage egress during an emergency in a building. The use of equipment that would provide real time data to building's emergency command centers could lead to better direction of building evacuations and provide the ability for the command center to see conditions throughout the building. This would allow building officials and the fire service to observe if an egress route has become untenable and where they can most effectively redistribute occupants in the building, thus increasing the levels of life safety to occupants throughout the building. A concern regarding privacy of occupants has been raised in the past.

However, in a report, “Public Perceptions of High-Rise Building Safety and Emergency Evacuation Procedures” completed for HRB-SAC in 2007 by the Fire Protection Research Foundation, it was found that very few persons have concern over privacy issues if their exit stairwells were equipped with video cameras. When asked about their level of concern over privacy issues if the exit stairwells in their building were equipped with video cameras to permit monitoring of stairwells during evacuations, about nine out of ten respondents (89 percent) reported they would not be concerned at all. Of the remaining, 7 percent reported they would be somewhat concerned and 3 percent would be very concerned. The High Rise Building Safety Advisory Committee (HRB-SAC) concluded that while this language would provide the ability to better manage and control egress through real-time management, at this time it is only feasible for it to be included in new high-rise buildings with occupant loads of over 4000. The topic of improving situation awareness of what happens in exit stairs during an evacuation is seen as an important topic with regards to occupant life safety and one worthy of new attention in the Code.

Response Message:

Ballot Results

This item has passed ballot

28 Eligible Voters
1 Not Returned
19 Affirmative All
1 Affirmative with Comments
7 Negative with Comments
0 Abstention

Not Returned
Gaubert, Marshall J.

Affirmative All
Blum, Andrew
Carson, Wayne G.
Cheng, Amy Y.
DiCristina, Salvatore
Doebler, Tod
Eugene, Robert J.
Gencarelli, Michael O.
Groner, Norman E.
Laramee, Scott T.
Lathrop, James K.
Lovell, Vickie J.
McNamara, Jack
Murga, Ricardo
Pitts, Dennis L.
Reiswig, Rodger
Saba, Patrick S.
Speed, Robert A.
Valentine, Victoria B.
Wydeveld, Steven F.

Affirmative with Comment
Pauls, Jake
The proposals on exit stair monitoring were submitted by NPFA?s High Rise Building Safety Advisory Committee (HRBSAC, on which I serve) after a great deal of consideration and related work, most notably on the new NFPA EAP

guide from which excerpts are provided below. HRBSAC has broader expertise on high rise safety, in relation to fire and other emergencies, than the FUN TC negative balloters appear to posses. Regarding the monitor display system (noted by Mr. Hurley), in my presentation, to both HRBSAC and the FUN TC, I illustrated how a display system could be arranged on a single screen to show, simultaneously, continuously, and in real time, the images from multiple cameras. Modern display systems, as used ubiquitously in video-based security systems, utilize high-definition screens that can easily display scores of very clear images simultaneously. I explained that one option, easily implemented with current technology, is to have individual images active only if there was activity (e.g., people movement, smoke movement, etc.) captured by a camera to help draw attention only to the relevant areas of the stair system. Clearly, the application of widely-used technologies (video and otherwise, such as access control systems) is late in being applied to building evacuation systems and those voting against the HRBSAC proposals want to delay that application even more. HRBSAC has taken a multi-pronged approach, especially with so much of its effort being applied to planning, management, and process issues, such as covered in detail in the EAP guide, excerpted here (with underlining added). Guidelines to Developing Emergency Action Plans (EAP) for All-Hazard Emergencies in High-Rise Office Buildings Section 4 OCCUPANT EVACUATION STRATEGIES 4.1 General. 4.1.1 Various potential threats to a building may require best practice emergency management so as not to delay moving people to a safe area. This includes provision for an effective means of initiating, monitoring, and managing the evacuation of a high-rise building, where a large number of people could be at risk. 4.1.2 The evacuation of occupants in a building?s exit stairs should be monitored to facilitate effective management of egress capacity, including prioritization of egress for those occupants in greater danger. . . . . 4.2.3.2 The EAP should identify the safest and most efficient means of evacuating persons from the building or designated floors or areas thereof. Priority should be given to building occupants on floors or other areas of the building most at risk of harm and, in the designation of exit routes, to the avoidance of congestion that would delay the movement of those with priority. The EAP should also ensure that prioritization is actually accomplished (e.g., by implementing provisions for exit stair monitoring, such as video systems, monitored from the Emergency Command Center). . . . . 6.2.3 Evaluation. Tests should be conducted to evaluate the preparedness and capabilities of occupants and life safety staff (e.g., through ?fire drills?). Available stair monitoring system recordings, especially of occupant use of exit stairs, should be used to assess performance and attain realistic expectations of what can be accomplished in an actual emergency.

Negative with Comment

Alfawakhiri, Farid

I am changing my vote to negative in support of the arguments provided by Hurley, Puchovsky, Frable and Jacoby.

Frable, David W.

Conceptually, the proposal to install video cameras in high-rise building exit stairways has the potential to provide useful information to first responders in monitoring occupant evacuation during a building emergency. However, as written, the proposal language may create enforcement issues as well as design issues because the language has not specified any specific operational or performance criteria for the video monitoring equipment. This lack of critical information will lead to designers questioning what operational and performance criteria needs to be met as well as what acceptance criteria is needed for the authority having jurisdiction to approve such systems. In addition, no acceptance test criterion for the video monitoring equipment has been provided to assist the authority of jurisdiction in their approval process. Lastly, the requirement for installing the video monitoring equipment in a high-rise building having an occupant load factor of 4,000 or more persons has not been sufficiently justified since building height should be the key determining factor for installing such equipment within a building and not occupant load since this requirement is proposed in the high-rise building section of the Code. For example, it is possible that this requirement could require a building less than 120 feet in height (which is typically not a very tall building) having an occupant load of 4,000 persons, to require video monitoring equipment within the exit stairs.

Gerdes, Ralph D.

I do not understand how video monitoring will improve one's ability to evacuate the building.

Hurley, Morgan J.

First, the requirement is ambiguous. It calls for cameras at the level of exit discharge and at least every five stories above the level of exit discharge. These cameras would display on monitor(s) in the emergency command center. What is not clear is how many monitor(s) should be provided. One per camera? A single monitor that alternates between potentially in excess of a hundred cameras? If a single monitor, how frequently should it alternate between cameras? If there is a single monitor and more than a hundred cameras, and the scanning frequency is five seconds, each camera would only be viewed every eight minutes, so the data from these cameras would be of limited utility. Without identifying how the images from the video cameras would be displayed, this new requirement would be difficult to apply and enforce. Secondly, and more importantly, exactly HOW the information obtained by the stairway video monitoring equipment would be used is not identified. Similarly, no substantiation of the need for this system is provided by the professionals that might actually use it. Instead, the substantiation seems to focus more on how the system would address privacy concerns.

Jacoby, David J.

Stairwell monitoring installation is not well defined and adds more cost and complexity for the potential benefit. The system requires a trained person to be able to intepret the iformation in real time and relay the information to occupants and responders. Training, staffing and proper installation guides do not currently exist.

Klein, David P.

I agree with the comments from David Frable, Morgan Hurley, David Jacoby, and Milosh Puchovsky.

Puchovsky, Milosh T.

No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.

Second Revision No. 79-NFPA 5000-2013 [New Section after A.33.3.5]

A.33.3.8.1

With video systems, such as standard CCTV security systems typically installed in high-rise buildings, real-time images of occupants' and emergency responders' presence and movement (or lack thereof) in exits, especially at multiple locations of the same exit stairway, can provide critical information about current and developing conditions that should be taken into account in emergency management in accordance with the building's Emergency Action Plan.

Having video cameras positioned to capture images of an exit stairway, including just prior to the discharge doorway from the exit, provides information on the number and flow (in persons per minute, for example) of the occupants, among other information, including access by responding firefighters using stairs if elevators are not available. It is not essential that the camera views and image resolution be sufficient to identify specific individuals. Depending on the context (including security applications), such specific-person identification might be essential, desirable, undesirable, or forbidden. For post-incident evaluation and analysis of egress performance, it is helpful to have image quality and camera angle such that individuals' lateral and front-to-back positions, relative to the stair width, are clear.

For example, a high-rise building could have cameras at the ground level (assuming this is the level of exit discharge) and at every fifth floor above, and perhaps below grade, for each of the exit stairs. As well as providing a reasonable sampling of evacuee presence and movement within the exit stair system—information important for real-time situation awareness—the cameras could also provide a comparison of times at which particular individuals pass different cameras delivering important data on evacuation movement speed and (indirectly) average occupant density, in addition to flow and number of evacuees overall.

When designing and installing a video monitoring system, and in conjunction with the AHJ, the following items should be considered in the operation of the system:

(1) Inspection, testing, and maintenance of equipment

(2) Duration/hours of operation

(3) Storage and retention of information

(4) Activation of the system

(5) Integration with the building's emergency action plan

Submitter Information Verification

Submitter Full Name: Ron Coté
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 31 08:24:56 EDT 2013

Correlating Committee Actions

The correlating committee may override this SR with a Second Correlating Revision

Create SCR

Committee Statement and Meeting Notes

Committee Statement: The annex text supports the new requirement for stairway video monitoring in some high rise buildings. The code and annex texts were added in response to input from the NFPA High Rise Building Safety

Advisory Committee which provided the following substantiation: The proposed text provides additions to the current provision of the code that have the potential to help the fire service, other fire safety personnel and building management to effectively monitor and manage egress during an emergency in a building. The use of equipment that would provide real time data to building's emergency command centers could lead to better direction of building evacuations and provide the ability for the command center to see conditions throughout the building. This would allow building officials and the fire service to observe if an egress route has become untenable and where they can most effectively redistribute occupants in the building, thus increasing the levels of life safety to occupants throughout the building. A concern regarding privacy of occupants has been raised in the past. However, in a report, "Public Perceptions of High-Rise Building Safety and Emergency Evacuation Procedures" completed for HRB-SAC in 2007 by the Fire Protection Research Foundation, it was found that very few persons have concern over privacy issues if their exit stairwells were equipped with video cameras. When asked about their level of concern over privacy issues if the exit stairwells in their building were equipped with video cameras to permit monitoring of stairwells during evacuations, about nine out of ten respondents (89 percent) reported they would not be concerned at all. Of the remaining, 7 percent reported they would be somewhat concerned and 3 percent would be very concerned. The High Rise Building Safety Advisory Committee (HRB-SAC) concluded that while this language would provide the ability to better manage and control egress through real-time management, at this time it is only feasible for it to be included in new high-rise buildings with occupant loads of over 4000. The topic of improving situation awareness of what happens in exit stairs during an evacuation is seen as an important topic with regards to occupant life safety and one worthy of new attention in the Code.

Response Message:

Ballot Results

This item has passed ballot

28 Eligible Voters
1 Not Returned
20 Affirmative All
1 Affirmative with Comments
6 Negative with Comments
0 Abstention

Not Returned
Gaubert, Marshall J.

Affirmative All
Blum, Andrew
Carson, Wayne G.
Cheng, Amy Y.
DiCristina, Salvatore
Doebler, Tod
Eugene, Robert J.
Gencarelli, Michael O.
Groner, Norman E.
Hurley, Morgan J.
Laramee, Scott T.
Lathrop, James K.
Lovell, Vickie J.
McNamara, Jack
Murga, Ricardo
Pitts, Dennis L.
Reiswig, Rodger

Saba, Patrick S.
Speed, Robert A.
Valentine, Victoria B.
Wydeveld, Steven F.

Affirmative with Comment

Pauls, Jake
See my affirmative comment on SR-71.

Negative with Comment

Alfawakhiri, Farid
see comment on SR-71
Frable, David W.
See Comment SR-71
Gerdes, Ralph D.
I do not understand how video monitoring will improve one's ability to evacuate the building.
Jacoby, David J.
See SR-71
Klein, David P.
I agree with the comments from David Frable, David Jacoby, and Milosh Puchovsky.
Puchovsky, Milosh T.
No data or analysis has been presented that mandating the installation of such video monitoring equipment will have a measurable positive impact on fire safety for building occupants. Furthermore no provisions or protocols are in place as to how such data generated by the video equipment is to be used real-time by responding personnel and others. Standards addressing the design, installation, protection and maintenance of such specific purpose life safety video equipment and systems are lacking. A broad reference to NFPA 72 and NFPA 731 do not comprehensively address the related concerns. Protocols pertaining the to the storage and access of generated video data are also lacking. Mandating such video monitoring systems in all high rise buildings is pre-mature, and in its current form will result in numerous design, installation and enforcement concerns.