

Agenda
Technical Committee on
Supervising Station Fire Alarm and Signaling Systems (SIG-SSS)
NFPA 72 (A2021) Second Draft Meeting
Virtual Meeting
July 6, 2020

Item 20-7-1 Call to Order

Item 20-7-2 Roll Call and Introductions

Item 20-7-3 Approval of Meeting Agenda

Item 20-7-4 Approval of Meeting Minutes

Item 20-7-5 Staff/Chair Remarks

Item 20-7-6 Task Group Reports

Item 20-7-7 Review of Chapter 11 and establish/revise necessary references in Chapter 26/Annex 26 to Chapter 11 as required

Item 20-7-8 Public Comments and Second Revisions

Item 20-7-9 Old/New Task Groups

Item 20-7-10 Old Business

Item 20-7-11 New Business

Item 20-7-12 Review Dates and Times for Future Meetings/Conference Calls

Item 20-7-13 Adjournment and Closing Remarks

**Supervising Station Fire Alarm and Signaling Systems
 Signaling Systems for the Protection of Life and Property**

Daniel J. O'Connor Chair JENSEN HUGHES 4 Overlook Point Lincolnshire, IL 60069-4302 Alternate: Charles Mason	SE 04/03/2019 SIG-SSS	Raymond E. Bigelow Principal 12 Walcott Street Natick, MA 01760. International Municipal Signal Association	U 10/20/2010 SIG-SSS
Art Black Principal Carmel Fire Protection Associates PO Box 7168 Carmel-by-the-Sea, CA 93921-7168	E 01/01/1990 SIG-SSS	David A. Blanken Principal Keltron Corporation 101A First Avenue Waltham, MA 02451 Alternate: Steven P. Sargent	M 7/23/2008 SIG-SSS
Robert F. Buckley Principal Signal Communications Corporation PO Box 2588 Woburn, MA 01888-1188 Alternate: Leo J. Watts	M 7/17/1998 SIG-SSS	Lawrence E. Coveny Principal CPSI Fire And Security (Cross Point Sales Inc.) 3158 S. State Street Lockport, IL 60441	IM 8/2/2010 SIG-SSS
Christopher Creamer Principal Dynafire 109 B Concord Drive Casselberry, FL 32707	IM 04/02/2020 SIG-SSS	James S. Crews Principal Allianz Global Corporate & Specialty 1222 Rising Moon Trail Snellville, GA 30078-7395 Alternate: Scott D. Henderson	I 7/26/2007 SIG-SSS
Robert Deardorff Principal FM Approvals 1151 Boston-Providence Trnpg Norwood, MA 02062	I 04/03/2019 SIG-SSS	Lee Dube Principal AES Corporation 280 Newbury Street Peabody, MA 01960 Alternate: Michael Sherman	M 08/08/2019 SIG-SSS
Jason Dupuis Principal Cintas Fire Protection F19 939 West 19th Street, Suite C2 Costa Mesa, CA 92627-4169 Automatic Fire Alarm Association, Inc. Alternate: Shane M. Clary	M 04/05/2016 SIG-SSS	William J. (Jody) Dwyer Principal Germantown Fire Department 2700 Cross Country Germantown, TN 38138 Alternate: Pamela DeMeo	E 3/7/2013 SIG-SSS
Donald Fess Principal Harvard University 46 Blackstone Street Cambridge, MA 02138	U 08/03/2016 SIG-SSS	Joseph (Jay) Huhn Principal Huhn and Associates, LLC 3 13th Avenue Baltimore, MD 21225 The Monitoring Association	IM 08/08/2019 SIG-SSS

**Supervising Station Fire Alarm and Signaling Systems
Signaling Systems for the Protection of Life and Property**

Richard G. Kluge Principal Ericsson 1 Ericsson Drive Piscataway, NJ 08854 Alliance for Telecommunications Industry Solutions Alternate: Randy H. Schubert	U 04/05/2016 SIG-SSS	Scott M. May Principal Bosch Security Systems 130 Perinton Parkway Fairport, NY 14450 National Electrical Manufacturers Association	M 08/18/2014 SIG-SSS
Matthew J. Mertens Principal North Shore Fire Department 665 East Brown Deer Road Bayside, WI 53217	E 04/02/2020 SIG-SSS	Scott Newman Principal Walgreens 1411 Lake Cook Road MS #L411 Deerfield, IL 60015-5213	U 04/05/2016 SIG-SSS
Warren E. Olsen Principal Fire Safety Consultants, Inc. 2420 Alft Lane, Suite 100 Elgin, IL 60124 Illinois Fire Inspectors Association Alternate: Deane E. Walker	E 10/27/2009 SIG-SSS	Donald C. Pannell Principal City of Memphis Division of Fire Services 2668 Avery Avenue Memphis, TN 38112-4895 Alternate: Noble John Taylor	E 01/14/2005 SIG-SSS
Roy Pollack Principal Comcast Xfinity Home 14460 Temple Boulevard Loxahatchee, FL 33470 Electronic Security Association Alternate: Michael G. Slossar	U 04/05/2016 SIG-SSS	Richard Jay Roberts Principal Honeywell Fire Safety 624 Hammer Lane North Aurora, IL 60542-9155	M 04/05/2016 SIG-SSS
Steven A. Schmit Principal UL LLC 333 Pfingsten Road Northbrook, IL 60062-2096 UL LLC Alternate: Paul J. Olson	RT 7/20/2000 SIG-SSS	Glenn Schroeder Principal NetOne Inc. 206 Cochet Court Cary, NC 27511	IM 12/06/2017 SIG-SSS
Sean P. Titus Principal Fike Corporation 704 South 10th Street Blue Springs, MO 64015-4263 Fire Suppression Systems Association Alternate: Martin J. Farragher	M 10/4/2001 SIG-SSS	Daniel S. Vandergriff Principal Telgian Corporation 2100 Terra Lane High Ridge, MO 63049-1898 The Home Depot Alternate: Thomas J. Parrish	U 04/02/2020 SIG-SSS

**Supervising Station Fire Alarm and Signaling Systems
Signaling Systems for the Protection of Life and Property**

Iman Yavari	SE 04/02/2020	Shane M. Clary	M 04/05/2016
Principal Crosslinx Transit Solution 121 McMahon Drive Unit#3216 Toronto, ON M2K 0C1 Canada	SIG-SSS	Alternate Bay Alarm Company 5130 Commercial Circle Concord, CA 94520-8522 Automatic Fire Alarm Association, Inc. Principal: Jason Dupuis	SIG-SSS
Pamela DeMeo	E 08/17/2018	Martin J. Farraher	M 03/05/2012
Alternate North Collier Fire 6495 Taylor Road Naples, FL 34109 Principal: William J. (Jody) Dwyer	SIG-SSS	Alternate Siemens Industry, Inc. 5075 Houston Road Rockford, IL 61109-3882 Fire Suppression Systems Association Principal: Sean P. Titus	SIG-SSS
Scott D. Henderson	I 04/04/2017	Charles Mason	SE 08/17/2018
Alternate Allianz Global Corporation & Specialty 7 Hilltop Farm Road Auburn, MA 01501-3325 Principal: James S. Crews	SIG-SSS	Alternate JENSEN HUGHES 117 Metro Center Boulevard Suite 1002 Warwick, RI 02886 Principal: Daniel J. O'Connor	SIG-SSS
Paul J. Olson	RT 10/18/2011	Thomas J. Parrish	U 04/05/2016
Alternate UL LLC 13033 Ridgedale Drive, #215 Minnetonka, MN 55305 UL LLC Principal: Steven A. Schmit	SIG-SSS	Alternate Telgian Corporation 15771 W-M36 Pinckney, MI 48169-9717 The Home Depot Principal: Daniel S. Vandergriff	SIG-SSS
Steven P. Sargent	M 03/05/2012	Randy H. Schubert	U 04/05/2016
Alternate Keltron Corporation 101A First Avenue Waltham, MA 02451 Principal: David A. Blanken	SIG-SSS	Alternate Ericsson 444 Hoes Lane Piscataway, NJ 08854-4104 Alliance for Telecommunications Industry Solutions Principal: Richard G. Kluge	SIG-SSS
Michael Sherman	M 04/05/2016	Michael G. Slossar	U 04/04/2017
Alternate AES Corporation AES-Intellinet Division 285 Newbury Street Peabody, MA 01960 Principal: Lee Dube	SIG-SSS	Alternate AT&T Digital Life 983 Kingston Drive Cherry Hill, NJ 08034 Electronic Security Association Principal: Roy Pollack	SIG-SSS

**Supervising Station Fire Alarm and Signaling Systems
Signaling Systems for the Protection of Life and Property**

Noble John Taylor	E 08/17/2018	Deane E. Walker	E 08/17/2017
Alternate Volusia County Fire Rescue 125 W. New York Avenue Suite 220 Deland, FL 32720 Principal: Donald C. Pannell	SIG-SSS	Alternate Grayslake Fire Protection District 160 Hawley Street Grayslake, IL 60030 Illinois Fire Inspectors Association Principal: Warren E. Olsen	SIG-SSS
Leo J. Watts	M 04/05/2016	Richard J. Roux	11/12/2015
Alternate Signal Communications Corporation 4 Wheeling Avenue Woburn, MA 01801 Principal: Robert F. Buckley	SIG-SSS	Staff Liaison National Fire Protection Association One Batterymarch Park Quincy, MA 02169-7471	SIG-SSS

Meeting Minutes
Technical Committee on
Supervising Station Fire Alarm and Signaling Systems (SIG-SSS)
First Draft Meeting
July 25, 2019
Indianapolis, IN

Item 19-7-1 Call to Order

The First Draft Meeting was called to order at 08:00 am by the Committee Chair, Daniel O'Connor.

The meeting minutes were taken by immediate past-chair, Warren Olsen.

Item 19-7-2 Roll Call and Introductions

Principles, Alternates, Guests and NFPA Staff introduced themselves (*see attached list*).

An attendance sheet was signed by all parties including Principles, Alternates, Guests and NFPA Staff in attendance.

The number of eligible voting members (principles and voting alternates) in attendance was determined.

Item 19-7-3 Approval of Meeting Agenda

There was a motion and second, to accept the agenda for the First Draft Meeting. The vote of the committee was to accept the agenda (all).

Item 19-7-4 Approval of Meeting Minutes

There was a motion and second, to accept the meeting minutes from the SIG-SSS, Second Draft meeting held on July 19 and 20, 2017, in Charlotte, NC. The vote of the committee was to accept the minutes as presented (all).

Item 19-7-5 Staff and Chair Remarks

Chair Dan O'Connor welcomed the Technical Committee and provided opening remarks including his expectations for the First Draft Meeting and the processing of the Public Inputs assigned to SIG-SSS.

Long-time committee member Art Black was recognized by Chair O'Connor. Mr. Black provided a historical perspective of the SIG-SSS Technical Committee and Chapter 26.

Staff remarks were provided by Laura Moreno:

- Committee procedures
- Time frame for processing the 2022 edition
- Use of Firefox or Chrome for reviewing material in Terra View
- Emergency procedures

Item 19-7-6 Task Group Reports

The sole Task Group was chaired by Art Black. Mr. Black reported that the Task Group, which reviewed Annex material, submitted five Public Inputs for the committee's review.

No industry or association reports were provided.

Item 19-7-7 Public Inputs and First Revisions

SIG-SSS began the review and processing of submitted Public Inputs and the creation of First Revisions.

Break taken from 10:00 am until 10:20 am.

Chair O'Connor reconvened the meeting. Public Input review and the creation of First Revisions continued.

A letter was received from the Florida Fire Marshals and Inspectors Association by Chair O'Connor regarding Public Inputs 35, 36, and 527.

Lunch taken from 11:45 am until 1:05 pm.

Chair O'Connor reconvened the meeting. Public Input review and the creation of First Revisions continued.

Break taken from 3:00 pm until 3:20 pm.

Chair O'Connor reconvened the meeting. Public Input review and the creation of First Revisions continued.

Task Groups were created by Chair O'Connor to address:

- PI 418 (26.2.1.4, 26.2.1.5) – Task Group Chair, Warren Olsen and additional Task Group members included Shane Clary, Sean Titus, Robert Buckley, and Donald Fess. The Task Group was created to review requirements for ceasing retransmission of alarm signals to the communications center by a supervising station; and, the subsequent resumption of the retransmission of those signals.
- PI 417 (26.6.2.3) – Scott Newman was assigned by Chair O’Connor to an NFPA 72 Task Group created by the Correlating Committee to review cyber security issues affecting multiple chapters of the document.

Item 19-7-8 Old Business

None.

Item 19-7-9 New Business

None.

Item 19-7-10 Review Dates and Times for Future Meetings / Conference Calls

Electronic balloting of the committee’s action will occur within a few weeks.

The Second Draft Meeting is scheduled to be held the week of July 20 – 24, 2020, in a yet to be determined location.

Item 19-7-11 Closing Remarks and Adjournment

Chair O’Connor thanked the Technical Committee members for their hard work in processing the committee’s work.

Chair O’Connor adjourned the meeting at 4:50 pm.

Principal members in attendance:

O'Connor, Daniel (Chair)	JENSEN HUGHES
Olsen, Warren (Secretary)	Illinois Fire Inspectors Association
Bigelow, Raymond	International Municipal Signal Association
Black, Art	Carmel Fire Protection Associates
Blanken, David	Keltron Corporation
Buckley, Robert	Signal Communications Corporation
Coveny, Lawrence	CPSI Fire And Security (Cross Point Sales
Crews, James	Allianz
Deardorff, Robert	FM Global
Dupuis, Jason	Automatic Fire Alarm Association, Inc.
Dwyer, William	Germantown Fire Department
Fess, Donald	Harvard University
Kluge, Richard	Alliance for Telecommunications Industry
May, Scott	National Electrical Manufacturers
Newman, Scott	Walgreens
Pannell, Donald	City of Memphis
Pollack, Roy	Electronic Security Association
Roberts, Richard	Honeywell Fire Safety
Schmit, Steven	UL LLC
Titus, Sean	Fire Suppression Systems Association
Parrish, Thomas (Voting Alt)	The Home Depot
Schroeder, Glenn (Voting Alt)	The Monitoring Association
Sherman, Michael (Voting Alt)	AES Corporation

Alternate members in attendance:

Clary, Shane	Automatic Fire Alarm Association, Inc.
DeMeo, Pamela	North Collier Fire
Farraher, Martin	Fire Suppression Systems Association
Mason, Charles	JENSEN HUGHES
Olson, Paul	UL LLC
Slossar, Michael G.	Electronic Security Association

Guests in attendance:

Bunker, Merton	Merton Bunker & Associates
Bish, George	Ring
Dube, Lee	AES Corporation
Huhn, Jay	TMA

NFPA staff in attendance:

Moreno, Laura	National Fire Protection Association
Ing, Alex	National Fire Protection Association
Roux, Richard	National Fire Protection Association



Committee Input No. 5220-NFPA 72-2019 [New Section after 26.6.2.2]

This was a First Revision that has been modified or deleted as the result of First Correlating Revision:

26.6.2.3 Remote Programming of Transmitting Technologies . Remote programming of protected premises transmission technologies covered by Sections 26.6.3, 26.6.4, and 26.6.5 shall be permitted when all of the conditions in 26.6.2.3.1 through 26.6.2.3.9 are met.

26.6.2.3.1 A qualified person in accordance with 10.5.3.2 or 10.5.3.3 shall be on the protected premises at all times during the remote programming.

26.6.2.3.2 The fire department communications center shall be notified of the potential loss of connectivity between the protective premises and the supervising station.

26.6.2.3.3 The supervising station shall be notified of the potential loss of connectivity between the protected premises and the supervising station.

26.6.2.3.4 The responsible party for the alarm system shall be notified that alarm signals might not automatically transmit to the supervising station during the remote programming process.

26.6.2.3.5 A mitigation plan shall be initiated by the responsible party for the alarm system which assigns an individual, or individuals, who will be charged with contacting the communications center in the event that an actual alarm occurs during the remote programming of the transmitting equipment.

26.6.2.3.6 Where the transmission technology is integral to the control unit, reacceptance testing shall occur in accordance with 14.4.2.5 and Table 14.4.3.2(4) where executive software for the transmission technology is changed.

26.6.2.3.7 Where the transmission technology is integral to the control unit, reacceptance testing shall occur in accordance with 14.4.2.4 and Table 14.4.3.2(4) where site-specific software for the transmission technology is changed.

26.6.2.3.8 Where the transmission technology is not integral to the control unit, testing shall occur in accordance with Table 14.4.3.2(4).

26.6.2.3.9 Parties notified in 26.6.2.3.2, 26.6.2.3.3, and 26.6.2.3.4 shall be notified when remote programming and testing has been completed.

Submitter Information Verification

Committee: SIG-SSS

Submission Date: Thu Jul 25 11:22:57 EDT 2019

Committee Statement

Committee Statement: Remote programming and firmware updating is gaining popularity and code language needs to be in place to regulate remote programming. The Correlating Committee should coordinate this with SIG-FUN and SIG-PRO.

Response Message: CI-5220-NFPA 72-2019

Public Input No. 417-NFPA 72-2019 [New Section after 26.6.2.2]

Ballot Results

✔ This item has passed ballot

23 Eligible Voters

1 Not Returned

20 Affirmative All

2 Affirmative with Comments

0 Negative with Comments

0 Abstention

Not Returned

Olsen, Warren E.

Affirmative All

Bigelow, Raymond E.

Black, Art

Blanken, David A.

Coveny, Lawrence E.

Crews, James S.

Deardorff, Robert

Dube, Lee

Dupuis, Jason

Dwyer, William J. (Jody)

Fess, Donald

Hahn, Joseph (Jay)

Kluge, Richard G.

May, Scott M.

Newman, Scott

O'Connor, Daniel J.

Pannell, Donald C.

Parrish, Thomas J.

Pollack, Roy

Schmit, Steven A.

Titus, Sean P.

Affirmative with Comment

Buckley, Robert F.

Although I agree with the First Revision, I feel the committee should carefully consider the additional system loading that remote programming will impose. The loading capacities for various communications technologies were developed with alarm, trouble and supervisory signals and Chapter 14 testing requirements in mind.

Roberts, Richard Jay

For consistency throughout the Code coordinate with the First Revision 5111 relating to remote access Section 26.6.2.3.2: Replace the word protective with the word protected. There needs to be cyber security requirements that address the integrity of the remote connection and data transfer. Recommend the following second revision change that is based on first revision 5122 26.6.2.4 Cyber Security Requirements. Where required by other governing laws, codes, or standards, systems shall be protected by cyber security requirements. 26.6.2.4.1 Systems shall be designed and installed in accordance with one or more of the following cyber security standards: (1) ANSI/ISA-62443 series (2) NIST Framework for Improving Critical Infrastructure Cybersecurity , Version 1.1 (3) UL 2900 series (4) Other standards accepted by the authority having jurisdiction 26.6.2.4.2 Evidence of compliance with the requirements of 10.5.1 shall include one or more of the following: (1) The ISA Security Compliance Institute (ISCI) conformity assessment program (2) Certification of compliance by a nationally recognized test laboratory (3) Manufacturer certification for the specific type and brand of system provided



Public Comment No. 23-NFPA 72-2020 [Chapter 26]

Chapter 26 Supervising Station Alarm Systems

26.1* Application.

The performance, installation, and operation of alarm systems at a continuously attended supervising station and between the protected premises and the continuously attended supervising station shall comply with the requirements of this chapter.

26.1.1*

Where any system regulated by this Code sends signals to a supervising station, the entire system shall become a supervising station alarm system.

26.1.2

The requirements of Chapters 7, 10, 12, 14, and 23 shall apply unless otherwise noted in this chapter.

26.1.3

The requirements of this chapter shall not apply to Chapter 29 unless otherwise noted.

26.2 General.

26.2.1 Alarm Signal Disposition.

26.2.2.1

supervisory and trouble conditions that originate from exterior systems will be disregarded unless explicitly expressed through verification . 4-

26.2.1.1 1

Alarm signals initiated by manual fire alarm boxes, automatic fire detectors, waterflow from the automatic sprinkler system, or actuation of other fire suppression system(s) or equipment shall be treated as fire alarm signals.

26.2.1.2*

Except as permitted by 26.2.2 and 29.10.9.7, all fire alarm signals received by a supervising station shall be immediately retransmitted to the communications center.

26.2.1.3

Fire alarm signals received at the supervising station shall be retransmitted to the communications center by one of the following methods:

- (1) Signals that are identified by zone at the supervising station shall be retransmitted by zone to the communications center.
- (2) Signals that are identified as an individual point or points at the supervising station shall be retransmitted by point or points to the communications center.
- (3)* Signals that are received at the supervising station as events shall be retransmitted by event to the communications center.

26.2.1.4

Retransmission of subsequent signals shall comply with 26.2.1.4.1 and 26.2.1.4.2.

26.2.1.4.1

The supervising station shall continue to retransmit subsequent signals from a protected premises to the communications center until advised otherwise by the communications center.

26.2.1.4.2

Subsequent signals that are suppressed by the communications center shall be permitted to be suppressed for a maximum of one hour.

26.2.2* Fire Alarm Signal Verification.

For applications other than those addressed under the scope of 29.10.9.7, supervising station personnel shall attempt to verify alarm signals prior to reporting them to the communications center only where all the following conditions exist:

- (1) * Alarm signal verification is required by the responsible fire department for a specific protected premises.
- (2) Documentation of the requirement for alarm signal verification is provided by the responsible fire department to the supervising station and the protected premises.
- (3) If the requirement for verification changes, the responsible fire department notifies the supervising station and the protected premises.
- (4) * The verification process does not take longer than 90 seconds from the time the alarm signal is received at the supervising station until the time that retransmission of the verified alarm signal is initiated.
- (5) Verification of a true fire is received from anyone on premises or verification of an unwanted alarm signal is received only from a pre-assigned list of authorized personnel within the protected premises.
- (6) * Verified alarm signals are immediately retransmitted to the communications center and include information that the signal was verified at the protected premises to be an emergency.
- (7) * Alarm signals where verification is not conclusive are immediately retransmitted to the communications center.
- (8) * Alarm signals that are verified as unwanted alarms shall be reported to the responsible fire department in a manner and at a frequency specified by the responsible fire department.

26.2.3 Alarm Signal Content.

Where required by the enforcing authority, governing laws, codes, or standards, alarm signals transmitted to a supervising station shall be by addressable device or zone identification.

26.2.4 Carbon Monoxide Signal Disposition.**26.2.4.1** Carbon Monoxide Alarm Signal Disposition.**26.2.4.1.1**

A carbon monoxide alarm signal shall take precedence over supervisory or trouble signals.

26.2.4.1.2

The actuation of a carbon monoxide detector or system shall be distinctively indicated as a carbon monoxide alarm signal.

26.2.4.1.3*

Servicing of a system in alarm that cannot be reset shall be in accordance with Chapter 14 and shall occur within 4 hours of the carbon monoxide alarm signal.

26.2.4.1.4

Upon receipt of a carbon monoxide alarm signal, supervising station personnel shall perform the following actions in the order listed:

- (1) Where required by the emergency response agency, immediately retransmit indication of the carbon monoxide alarm signal to the communications center
- (2) Contact the responsible party(s) in accordance with the notification plan
- (3) Once contacted, inform the subscriber to take one of the actions in (a) or (b):
 - (a) Where the subscriber has a carbon monoxide emergency response plan, implement the plan
 - (b) Where the subscriber has no carbon monoxide emergency response plan:
 - i. Immediately move to fresh air, either outdoors or by an open door or window
 - ii. Verify that all occupants are accounted for
 - iii. Do not re-enter the premises or move away from an open door or window until the emergency service responders have arrived, the premises have been aired out, and the alarm returns to its normal condition

26.2.4.2 Carbon Monoxide Trouble Signal Disposition.

26.2.4.2.1

Upon receipt of a carbon monoxide trouble signal, the responsible party(s) shall be notified.

26.2.4.2.2

Servicing of a system in trouble shall be in accordance with Chapter 14 and shall occur within 4 hours of the trouble indication.

26.2.4.2.3

Carbon monoxide end-of-life signals, if provided, shall be treated as trouble signals.

26.2.5 Restoral Signals.**26.2.5.1**

All supervising station fire alarm systems shall be programmed to report restoral signals to the supervising station of all alarm, supervisory, and trouble signals upon restoration of the activation.

26.2.5.2

Except as permitted in 26.2.5.2.2, any signal received by the supervising station that has not restored to normal condition within 24 hours of initial receipt shall be redisplayed to an operator as a nonrestored signal.

26.2.5.2.1

A nonrestored signal that is redisplayed shall be reported to the subscriber.

26.2.5.2.2*

Paragraph 26.2.5.2 shall not apply to signals received as a result of a scheduled impairment.

26.2.6 Multiple Buildings.

For multiple building premises, the requirements of 10.19.5.3 shall apply to the alarm, supervisory, and trouble signals transmitted to the supervising station.

26.2.7* Change of Service.**26.2.7.1***

Supervising station customers or clients and the authority having jurisdiction shall be notified in writing by the new supervising station within 30 calendar days of any change of service provider that results in signals from the client's property being handled by a new supervising station.

26.2.7.2

Where the new provider of supervising station services covered by 26.2.7.1 also provides the required testing, the new provider shall test zones, points, and signals from each affected property in accordance with the requirements of Chapter 14 at or prior to the next scheduled periodic test.

26.2.7.3

Where the new provider of supervising station services covered by 26.2.7.1 does not provide the required testing, the new provider shall notify the alarm system owner of the need to test zones, points, and signals from each affected property in accordance with the requirements of Chapter 14 prior to or at the next scheduled periodic test.

26.2.7.4

The supervising station shall notify the authority having jurisdiction prior to terminating service.

26.2.8 Supervising Station Signal Processing Equipment.

Signal processing equipment located at the supervising station listed to UL 60950-1, *Information Technology Equipment — Safety — Part 1: General Requirements*, and used for computer-aided alarm and supervisory signal processing shall not be required to comply with 10.3.5 provided it is installed and operated conforming to UL 1981, *Central Station Automation Systems*, within an environment that is maintained at a level within the temperature, humidity, and voltage rating range of the equipment, and the equipment manufacturer's published instructions are available for examination.

26.2.9 Qualification of Supervising Station Operators.

Supervising station operators shall be qualified in accordance with the requirements of 10.6.5.

26.2.10 Cybersecurity Classification.

Cybersecurity design standards and certification requirements shall be in accordance with Section 10.5.

26.3 Central Station Service Alarm Systems.

Alarm systems used to provide central station service shall comply with the general requirements and the use requirements of Section 26.3.

26.3.1 System Scope.

Alarm systems for central station service shall include the central station physical plant, exterior communications channels, subsidiary stations, and alarm and signaling equipment located at the protected premises.

26.3.2* Service Scope.

Section 26.3 shall apply to central station service, which consists of the following elements:

- (1) Installation of alarm transmitters
- (2) Alarm, guard, supervisory, and trouble signal monitoring
- (3) Retransmission
- (4) Associated record keeping and reporting
- (5) Testing and maintenance
- (6) Runner service

26.3.3 Contract Requirements.

The central station service elements shall be provided under contract to a subscriber by a prime contractor that has a listing for central station fire alarm services.

26.3.3.1

The prime contractor shall be responsible for code-compliant service delivery, regardless of any subcontracting arrangements involved in the delivery of service.

26.3.3.2

Signal monitoring, retransmission, and associated recordkeeping and reporting shall be provided by a company that has a listing for central station alarm services covering these elements.

26.3.4* Indication of Central Station Service.

The prime contractor shall conspicuously indicate that the alarm system providing service at a protected premises complies with all the requirements of this Code through the use of a systematic follow-up program under the control of the organization that has listed the prime contractor.

26.3.4.1*

Documentation indicating Code compliance of the alarm system shall be issued by the organization that has listed the prime contractor.

26.3.4.2

The documentation shall include, at a minimum, the following information:

- (1) Name of the prime contractor involved with the ongoing Code compliance of the central station service
- (2)* Full description of the alarm system as installed
- (3) Issue and expiration dates of the documentation
- (4) Name, address, and contact information of the organization issuing the document
- (5) Identification of the authority(ies) having jurisdiction for the central station service installation

26.3.4.3

The documentation shall be physically posted within 3 ft (1 m) of the control unit, and copies of the documentation shall be made available to the authority(ies) having jurisdiction upon request.

26.3.4.4

A central repository of issued documentation, accessible to the authority having jurisdiction, shall be maintained by the organization that has listed the prime contractor.

26.3.4.5*

Alarm system service that does not comply with all the requirements of Section 26.3 shall not be designated as central station service.

26.3.4.6*

For the purpose of Section 26.3, the subscriber shall notify the prime contractor, in writing, of the identity of the authority(ies) having jurisdiction.

26.3.4.7

The authority(ies) having jurisdiction identified in 26.3.4.2(5) shall be notified within 30 calendar days of the expiration or cancellation by the organization that has listed the prime contractor.

26.3.4.8

The subscriber shall surrender expired or canceled documentation to the prime contractor within 30 days of the termination date.

26.3.5 Facilities.**26.3.5.1**

The central station building or that portion of a building occupied by a central station shall conform to the construction, fire protection, restricted access, emergency lighting, and power facilities requirements of the latest edition of UL 827, *Central-Station Alarm Services*.

26.3.5.2

Subsidiary station buildings or those portions of buildings occupied by subsidiary stations shall conform to the construction, fire protection, restricted access, emergency lighting, and power facilities requirements of the latest edition of UL 827, *Central-Station Alarm Services*.

26.3.5.2.1

All intrusion, fire, power, and environmental control systems for subsidiary station buildings shall be monitored by the central station in accordance with 26.3.5.

26.3.5.2.2

The subsidiary facility shall be inspected at least monthly by central station personnel for the purpose of verifying the operation and condition of all supervised equipment, telephones, energy storage systems, batteries, and generators, in accordance with the manufacturer's published instructions.

26.3.5.2.3

In the event of the failure of equipment at the subsidiary station or the communications channel to the central station, a backup shall be operational within 90 seconds.

26.3.5.2.4

With respect to 26.3.5.2.3, restoration of a failed unit shall be accomplished within 5 days.

26.3.5.2.5

Each communications channel shall be continuously supervised between the subsidiary station and the central station.

26.3.5.2.6

When the communications channel between the subsidiary station and the supervising station fails, the communications shall be switched to an alternate path.

26.3.5.2.7

Managed facilities-based voice networks shall be used only to provide an alternate path between the subsidiary station and the supervising station.

26.3.5.2.8

In the subsidiary station, there shall be a communications path, such as a cellular telephone, that is independent of the telephone cable between the subsidiary station and the serving wire center.

26.3.5.2.9

A plan of action to provide for restoration of services specified by this Code shall exist for each subsidiary station.

26.3.5.2.9.1

This plan shall provide for restoration of services within 4 hours of any impairment that causes loss of signals from the subsidiary station to the central station.

26.3.5.2.9.2

An exercise to demonstrate the adequacy of the plan shall be conducted at least annually.

26.3.6 Equipment.**26.3.6.1**

The central station and all subsidiary stations shall be equipped so as to receive and record all signals in accordance with 26.6.6.

26.3.6.2

Circuit-adjusting means for emergency operation shall be permitted to be automatic or to be provided through manual operation upon receipt of a trouble signal.

26.3.6.3

Computer-aided alarm and supervisory signal-processing hardware and software shall be listed for the purpose.

26.3.6.4

Power supplies shall comply with the requirements of Chapter 10.

26.3.6.5

Transmission means shall comply with the requirements of Section 26.6.

26.3.6.6*

Two independent means shall be provided to retransmit an alarm signal to the designated communications center.

26.3.6.6.1

The use of a universal emergency number, such as the 911 public safety answering point, shall not meet the intent of this Code for the principal means of retransmission.

26.3.6.6.2

If the principal means of retransmission is not equipped to allow the communications center to acknowledge receipt of each alarm report, both means shall be used to retransmit.

26.3.6.6.3

The retransmission means shall be tested in accordance with Chapter 14.

26.3.6.6.4

The retransmission signal and the time and date of retransmission shall be recorded at the central station.

26.3.7 Personnel.**26.3.7.1**

The central station shall have not less than two qualified operators on duty at the central station at all times to ensure disposition of signals in accordance with the requirements of 26.3.8.3.

26.3.7.2

Operation and supervision shall be the primary functions of the operators, and no other interest or activity shall take precedence over the protective service.

26.3.8 Procedures.**26.3.8.1**

The procedural requirements outlined in Section 26.2 shall be followed.

26.3.8.2

The additional procedural requirements outlined in 26.3.8 shall also be followed.

26.3.8.3 Disposition of Signals.

26.3.8.3.1 Alarm Signals.

The central station shall perform the following actions:

- (1)* Retransmit the alarm to the communications center in accordance with 26.2.1 unless the signal is a result of a prearranged test.
- (2) Dispatch a runner or technician to the protected premises to arrive within 2 hours after receipt of an alarm signal if equipment needs to be manually reset by the prime contractor. Except where prohibited by the authority having jurisdiction, the runner or technician shall be permitted to be recalled prior to arrival at the premises if a qualified representative of the subscriber at the premises can provide the necessary resetting of the equipment and is able to place the system back in operating condition.
- (3) Immediately notify the subscriber unless the signal is a result of a prearranged test.
- (4) Provide notice to the subscriber or authority having jurisdiction, or both, if required.

26.3.8.3.2 Guard's Tour Supervisory Signal.**26.3.8.3.2.1**

Upon failure to receive a guard's tour supervisory signal within a 15-minute maximum grace period, the central station shall perform the following actions:

- (1) Communicate without unreasonable delay with personnel at the protected premises
- (2) Dispatch a runner to the protected premises to arrive within 30 minutes of the delinquency if communications cannot be established
- (3) Report all delinquencies to the subscriber or authority having jurisdiction, or both, if required

26.3.8.3.2.2

Failure of the guard to follow a prescribed route in transmitting signals shall be handled as a delinquency.

26.3.8.3.3* Supervisory Signals.

Upon receipt of a supervisory signal that is not prearranged, the central station shall perform the following actions:

- (1)* Communicate immediately with the persons designated by the subscriber and notify the fire department, law enforcement agency, or both when required by the authority having jurisdiction
- (2) Dispatch a runner or maintenance person to arrive within 2 hours to investigate unless the supervisory signal is cleared in accordance with a scheduled procedure determined by 26.3.8.3.3(1)
- (3) Notify the authority having jurisdiction and the subscriber when sprinkler systems or other fire suppression systems or equipment have been wholly or partially out of service for 8 hours
- (4) When service has been restored, provide notice to the subscriber and the authority having jurisdiction of the nature of the signal, the time of occurrence, and the restoration of service when equipment has been out of service for 8 hours or more

26.3.8.3.4 Trouble Signals.

Upon receipt of trouble signals or other signals pertaining solely to matters of equipment maintenance of the alarm systems, the central station shall perform the following actions:

- (1)* If a received trouble signal does not restore within 15 minutes, communicate immediately with persons designated by the subscriber
- (2) Dispatch personnel to arrive within 4 hours to initiate maintenance, if necessary
- (3) When the interruption is more than 8 hours, provide notice to the subscriber and the fire department if so required by the authority having jurisdiction as to the nature of the interruption, the time of occurrence, and the restoration of service

26.3.8.3.5 Test Signals.**26.3.8.3.5.1**

All test signals received shall be recorded to indicate date, time, and type.

26.3.8.3.5.2

Test signals initiated by the subscriber, including those for the benefit of an authority having jurisdiction, shall be acknowledged by central station personnel whenever the subscriber or authority inquires.

26.3.8.3.5.3*

Any test signal not received by the central station shall be investigated immediately, and action shall be taken to reestablish system integrity.

26.3.8.3.5.4

The central station shall dispatch personnel to arrive within 2 hours if protected premises equipment needs to be manually reset after testing.

26.3.8.3.5.5

The prime contractor shall provide each of its representatives and each alarm system user with a unique personal identification code.

26.3.8.3.5.6

In order to authorize the placing of an alarm system into test status, a representative of the prime contractor or an alarm system user shall first provide the central station with his or her personal identification code.

26.3.9 Record Keeping and Reporting.**26.3.9.1**

Complete records of all signals received shall be retained for at least 1 year.

26.3.9.2

Testing and maintenance records shall be retained as required by 14.6.3.

26.3.9.3

The central station shall make arrangements to furnish reports of signals received to the authority having jurisdiction in a manner approved by the authority having jurisdiction.

26.3.10 Testing and Maintenance.

Testing and maintenance for central station service shall be performed in accordance with Chapter 14.

26.4 Proprietary Supervising Station Alarm Systems.**26.4.1 Application.****26.4.1.1**

Supervising facilities of proprietary alarm systems shall comply with the operating procedures of Section 26.4.

26.4.1.2

The facilities, equipment, personnel, operation, testing, and maintenance of the proprietary supervising station shall also comply with Section 26.4.

26.4.2 General.**26.4.2.1**

Proprietary supervising stations shall be operated by trained, competent personnel in constant attendance who are responsible to the owner of the protected property.

26.4.2.2

The protected property shall be either a contiguous property or noncontiguous properties under one ownership.

26.4.2.3

If a protected premises control unit is integral to or collocated with the supervising station equipment, the requirements of Section 26.6 shall not apply.

26.4.3 Facilities.**26.4.3.1***

The proprietary supervising station shall be located in either of the following:

- (1) Fire-resistive, detached building
- (2) A fire-resistive room protected from the hazardous parts of the building

26.4.3.2

Access to the proprietary supervising station shall be restricted to those persons directly concerned with the implementation and direction of emergency action and procedure.

26.4.3.3

The proprietary supervising station, as well as remotely located power rooms for batteries or engine-driven generators, shall be provided with portable fire extinguishers that comply with the requirements of NFPA 10.

26.4.3.4

The emergency lighting system shall comply with the requirements of 26.4.3.4.1 through 26.4.3.4.3.

26.4.3.4.1

The proprietary supervising station shall be provided with an automatic emergency lighting system.

26.4.3.4.2

The emergency source shall be independent of the primary lighting source.

26.4.3.4.3

In the event of a loss of the primary lighting for the supervising station, the emergency lighting system shall provide illumination for a period of not less than 26 hours to permit the operators to carry on operations and shall be tested in accordance with the requirements of Chapter 14.

26.4.3.5

If 25 or more protected buildings or premises are connected to a subsidiary station, both of the following shall be provided at the subsidiary station:

- (1) Automatic means for receiving and recording signals
- (2) A telephone

26.4.3.6* Retransmission Means.

The means of retransmission shall be accepted by the authority having jurisdiction and shall be in accordance with 26.3.6.6, 26.5.4.4, or Chapter 27.

26.4.4 Equipment.**26.4.4.1 Signal-Receiving Equipment.****26.4.4.1.1**

Signal-receiving equipment in a proprietary supervising station shall comply with 26.4.4.

26.4.4.1.2

Provision shall be made to designate the building in which a signal originates.

26.4.4.1.3*

The floor, section, or other subdivision of the building in which a signal originates shall be designated at the proprietary supervising station or at the building that is protected where required by the authority having jurisdiction.

26.4.4.1.4

Designation, as required by 26.4.4.1.2 and 26.4.4.1.3, shall use private-mode notification appliances approved by the authority having jurisdiction.

26.4.4.2 Signal-Alerting Equipment.**26.4.4.2.1**

The proprietary supervising station shall have, in addition to a recording device, two different means for alerting the operator when each signal is received that indicates a change of state of any connected initiating device circuit.

26.4.4.2.1.1

One of these means shall be an audible signal, which shall persist until manually acknowledged.

26.4.4.2.1.2

Means shall include the receipt of alarm, supervisory, and trouble signals, including signals indicating restoration.

26.4.4.2.1.3

If means is provided in the proprietary supervising station to identify the type of signal received, a common audible indicating appliance shall be permitted to be used for alarm, supervisory, and trouble indication.

26.4.4.2.1.4

At a proprietary supervising station, an audible trouble signal shall be permitted to be silenced, provided that the act of silencing does not prevent the signal from operating immediately upon receipt of a subsequent trouble signal.

26.4.4.2.2

All signals required to be received by the proprietary supervising station that show a change in status shall be automatically and permanently recorded, including time and date of occurrence, in a form that expedites operator interpretation in accordance with any one of the means detailed in 26.4.4.2.2.1 through 26.4.4.2.2.4.

26.4.4.2.2.1

If a visual display is used that automatically provides change of status information for each required signal, including type and location of occurrence, any form of automatic permanent visual record shall be permitted.

(A)

The recorded information shall include the content described in 26.4.4.2.2.

(B)

The visual display shall show status information content at all times and be distinctly different after the operator has manually acknowledged each signal.

(C)

Acknowledgment shall produce recorded information indicating the time and date of acknowledgment.

26.4.4.2.2.2

If a visual display is not provided, required signal content information shall be automatically recorded on duplicate, permanent visual recording instruments.

26.4.4.2.2.3

One recording instrument shall be used for recording all incoming signals, while the other shall be used for required alarm, supervisory, and trouble signals only.

(A)

Failure to acknowledge a signal shall not prevent subsequent signals from recording.

(B)

Restoration of the signal to its prior condition shall be recorded.

26.4.4.2.2.4

In the event that a system combines the use of a sequential visual display and recorded permanent visual presentation, the required signal content information shall be displayed and recorded.

(A)

The visual information component shall be retained either on the display until manually acknowledged or repeated at intervals not greater than 5 seconds, for durations of 2 seconds each, until manually acknowledged.

(B)

Each new displayed status change shall be accompanied by an audible indication that persists until manual acknowledgment of the signal is performed.

26.4.4.3* Redisplay of Status.

A means shall be provided for the operator to redisplay the status of required signal-initiating inputs that have been acknowledged but not yet restored.

26.4.4.3.1

If the system retains the signal on the visual display until manually acknowledged, subsequent recorded presentations shall not be inhibited upon failure to acknowledge.

26.4.4.3.2

Alarm signals shall be segregated on a separate visual display in this configuration unless they are given priority status on the common visual display.

26.4.4.4 Display Rate.

To facilitate the prompt receipt of alarm signals from systems handling other types of signals that are able to produce multiple simultaneous status changes, the requirements of either of the following shall be met:

- (1) Record simultaneous status changes at a rate not slower than either a quantity of 50 or 10 percent of the total number of initiating device circuits connected, within 90 seconds, whichever number is smaller, without loss of any signal
- (2) Display or record alarm signals at a rate not slower than one every 10 seconds, regardless of the rate or number of status changes occurring, without loss of any signals

26.4.4.5 Trouble Signals.

Trouble signals and their restoration shall be automatically indicated and recorded at the proprietary supervising station.

26.4.4.5.1

The recorded information for the occurrence of any trouble condition of signaling line circuit, leg facility, or trunk facility that prevents receipt of alarm signals at the proprietary supervising station shall be such that the operator is able to determine the presence of the trouble condition.

26.4.4.5.2

Trouble conditions in a leg facility shall not affect or delay receipt of signals at the proprietary supervising station from other leg facilities on the same trunk facility.

26.4.5 Personnel.**26.4.5.1**

Except as permitted in 26.4.5.2, the proprietary supervising station shall be staffed at all times by a minimum of two qualified operators.

26.4.5.2

Where the means for transmitting alarms to the communications center is automatic, the proprietary supervising station shall be permitted to be staffed by a minimum of one qualified operator at all times.

26.4.5.3

Where the proprietary supervising station is staffed by two qualified operators, one of the operators shall be permitted to be a runner.

26.4.5.4

When the runner is not in attendance at the proprietary supervising station, the runner shall establish two-way communications with the station at intervals not exceeding 15 minutes, unless otherwise permitted by 26.4.5.5.

26.4.5.5

Where two or more operators are on duty in the supervising station, a runner physically in attendance at a noncontiguous protected premises and immediately available via telephone or other approved means of communication shall not be required to maintain two-way communications at 15-minute intervals if that runner is not responsible for another protected premises.

26.4.5.6

The primary duties of the operator(s) shall be to monitor signals, operate the system, and take such action as shall be required by the authority having jurisdiction.

26.4.5.7

The operator(s) shall not be assigned any additional duties that would take precedence over the primary duties.

26.4.6 Operations.**26.4.6.1 Procedures.****26.4.6.1.1**

The procedural requirements outlined in Section 26.2 shall be followed.

26.4.6.1.2

The additional procedural requirements outlined in 26.4.6.1 shall also be followed.

26.4.6.1.3 Communications and Transmission Channels.

26.4.6.1.3.1

All communications and transmission channels used to receive signals between the proprietary supervising station and the protected premises control unit shall be operated manually or automatically once every 24 hours to verify operation.

26.4.6.1.3.2

If a communications or transmission channel fails to operate, the operator shall immediately notify the person(s) identified by the owner or authority having jurisdiction.

26.4.6.1.3.3* Coded Retransmission.

Retransmission by coded signals shall be confirmed by two-way voice communications indicating the nature of the alarm.

26.4.6.1.4 Operator Controls.**26.4.6.1.4.1**

All operator controls at the proprietary supervising station(s) designated by the authority having jurisdiction shall be operated at each change of shift.

26.4.6.1.4.2

If operator controls fail, the operator shall immediately notify the person(s) identified by the owner or authority having jurisdiction.

26.4.6.1.5 Retransmission.

Indication of a fire shall be immediately retransmitted to the communications center or other locations accepted by the authority having jurisdiction, indicating the building or group of buildings from which the alarm has been received.

26.4.6.1.6 Dispositions of Signals.**26.4.6.1.6.1 Alarms.**

Upon receipt of an alarm signal, the proprietary supervising station operator shall initiate action to perform the following:

- (1) Notify the communications center, the emergency response team, and such other parties as the authority having jurisdiction requires in accordance with 26.2.1
- (2) Dispatch a runner or technician to the alarm location to arrive within 2 hours after receipt of a signal
- (3) Restore the system as soon as possible after disposition of the cause of the alarm signal

26.4.6.1.6.2 Guard's Tour Supervisory Signal.

If a guard's tour supervisory signal is not received from a guard within a 15-minute maximum grace period, or if a guard fails to follow a prescribed route in transmitting the signals (where a prescribed route has been established), the proprietary supervising station operator shall initiate action to perform the following:

- (1) Communicate at once with the protected areas or premises by telephone, radio, calling back over the system circuit, or other means accepted by the authority having jurisdiction
- (2) Dispatch a runner to arrive within 30 minutes to investigate the delinquency if communications with the guard cannot be immediately established

26.4.6.1.6.3 Supervisory Signals.

Upon receipt of sprinkler system and other supervisory signals, the proprietary supervising station operator shall initiate action to perform the following, if required:

- (1) Communicate immediately with the designated person(s) to ascertain the reason for the signal
- (2) Dispatch personnel to arrive within 2 hours to investigate, unless supervisory conditions are immediately restored
- (3) Notify the fire department if required by the authority having jurisdiction
- (4) Notify the authority having jurisdiction when sprinkler systems are wholly or partially out of service for 8 hours or more
- (5)* Provide written notice to the authority having jurisdiction as to the nature of the signal, time of occurrence, and restoration of service when equipment has been out of service for 8 hours or more

26.4.6.1.6.4 Trouble Signals.

Upon receipt of trouble signals or other signals pertaining solely to matters of equipment maintenance of the alarm system, the proprietary supervising station operator shall initiate action to perform the following, if required:

- (1) Communicate immediately with the designated person(s) to ascertain reason for the signal
- (2) Dispatch personnel to arrive within 4 hours to initiate maintenance, if necessary
- (3) Notify the fire department if required by the authority having jurisdiction
- (4) Notify the authority having jurisdiction when interruption of service exists for 4 hours or more
- (5) When equipment has been out of service for 8 hours or more, provide written notice to the authority having jurisdiction as to the nature of the signal, time of occurrence, and restoration of service

26.4.7 Record Keeping and Reporting.**26.4.7.1**

Complete records of all signals received shall be retained for at least 1 year.

26.4.7.2

Testing and maintenance records shall be retained as required by 14.6.3.

26.4.7.3

The proprietary supervising station shall make arrangements to furnish reports of signals received to the authority having jurisdiction in a manner approved by the authority having jurisdiction.

26.4.8 Testing and Maintenance.

Testing and maintenance of proprietary alarm systems shall be performed in accordance with Chapter 14.

26.5 Remote Supervising Station Alarm Systems.**26.5.1** Application and General.**26.5.1.1**

Section 26.5 shall apply where central station service is neither required nor elected.

26.5.1.2

The installation, maintenance, testing, and use of a remote supervising station alarm system that serves properties under various ownership from a remote supervising station shall comply with the requirements of Section 26.5.

26.5.1.3

Remote supervising station physical facilities, equipment, operating personnel, response, retransmission, signals, reports, and testing shall comply with the minimum requirements of Section 26.5.

26.5.1.4

Remote supervising station alarm systems shall provide an automatic audible and visible indication of alarm, supervisory, and trouble conditions at a location remote from the protected premises.

26.5.1.5

Audible or visual notification appliances at the protected premises shall comply with 26.5.1.5.1 and 26.5.1.5.2.

26.5.1.5.1

Audible or visual notification appliances shall not be required other than those required at the remote supervising station.

26.5.1.5.2

Where audible or visual appliances are provided at the protected premises, the alarm signals, circuits, and controls shall comply with the provisions of Chapter 18 and Chapter 23 in addition to the provisions of Section 26.5.

26.5.1.6

The loading capacities of the remote supervising station equipment for any approved method of transmission shall be as designated in Section 26.6.

26.5.2 Indication of Remote Station Service.

26.5.2.1

Owners utilizing remote station alarm systems shall provide annual documentation to the authority having jurisdiction identifying the party responsible for the inspection, testing, and maintenance requirements of Chapter 14.

26.5.2.2

The documentation required by 26.5.2.1 shall take one of the following forms:

- (1)* Affidavit attesting to the responsibilities and qualifications of the parties performing the inspection, testing, and maintenance and accepting responsibility of compliance with Chapter 14 and signed by a representative of the service provider
- (2) Documentation indicating code compliance of the remote station alarm system issued by the organization that listed the service provider
- (3) Other documentation acceptable to the authority having jurisdiction

26.5.3* Facilities.**26.5.3.1**

Alarm systems utilizing remote supervising station connections shall transmit alarm and supervisory signals to a facility meeting the requirements of 26.5.3.1.1, 26.5.3.1.2, 26.5.3.1.3, or 26.5.3.1.4.

26.5.3.1.1

Alarm, supervisory, and trouble signals shall be permitted to be received at a communications center that complies with the requirements of NFPA 1221.

26.5.3.1.2

Alarm, supervisory, and trouble signals shall be permitted to be received at the fire station or at the governmental agency that has public responsibility for taking prescribed action to ensure response upon receipt of an alarm signal.

26.5.3.1.3

Where permitted by the authority having jurisdiction, alarm, supervisory, and trouble signals shall be permitted to be received at a listed central supervising station.

26.5.3.1.4*

Where permitted by the authority having jurisdiction, alarm, supervisory, and trouble signals shall be permitted to be received at an alternate location approved by the authority having jurisdiction.

26.5.3.2*

Trouble signals shall be permitted to be received at locations in accordance with 26.5.3.2.1 and 26.5.3.2.2.

26.5.3.2.1

Trouble signals shall be permitted to be received at an approved location that has personnel on duty who are trained to recognize the type of signal received and take prescribed action.

26.5.3.2.2

Trouble signals shall be permitted to be received at an approved location other than that which receives alarm and supervisory signals.

26.5.3.3

If locations other than the communications center are used for the receipt of signals, access to receiving equipment shall be restricted in accordance with the requirements of the authority having jurisdiction.

26.5.4 Equipment.**26.5.4.1**

Signal-receiving equipment shall indicate receipt of each signal both audibly and visibly.

26.5.4.1.1

Audible signals shall meet the requirements of Chapter 18 for the private operating mode.

26.5.4.1.2

Means for silencing alarm, supervisory, and trouble signals shall be provided and shall be arranged so that subsequent signals shall re-sound.

26.5.4.1.3

A trouble signal shall be received when the system or any portion of the system at the protected premises is placed in a bypass or test mode.

26.5.4.1.4

An audible and visible indication shall be provided upon restoration of the system after receipt of any signal.

26.5.4.1.5

If visible means are provided in the remote supervising station to identify the type of signal received, a common audible notification appliance shall be permitted to be used.

26.5.4.2

Power supplies shall comply with the requirements of Chapter 10.

26.5.4.3

Transmission means shall comply with the requirements of Section 26.6.

26.5.4.4

Retransmission of an alarm signal, if required, shall be by one of the following methods, which appear in descending order of preference as follows:

- (1) A dedicated circuit that is independent of any switched telephone network and is capable of voice or data communications
- (2) A one-way (outgoing only) telephone at the remote supervising station that utilizes a managed facilities-based voice network and is used primarily for voice transmission of alarms to a telephone at the communications center that cannot be used for outgoing calls
- (3) A private radio system using the fire department frequency, where permitted by the fire department
- (4) Other methods accepted by the authority having jurisdiction

26.5.5 Personnel.**26.5.5.1**

The remote supervising station shall have not less than two qualified operators on duty at the remote supervising station at all times to ensure disposition of signals in accordance with the requirements of 26.5.6.

26.5.5.2

Duties pertaining to other than operation of the remote supervising station receiving and transmitting equipment shall be permitted, subject to the approval of the authority having jurisdiction.

26.5.6 Procedures.**26.5.6.1**

The procedural requirements outlined in Section 26.2 shall be followed.

26.5.6.2

The additional procedural requirements outlined in 26.5.6 shall also be followed.

26.5.6.3 Disposition of Signals.**26.5.6.3.1 Alarm Signals.**

The remote station shall perform the following actions:

- (1) If the remote station is at a location other than the communications center, retransmit alarm signals to the communications center in accordance with 26.2.1.
- (2) Immediately notify the owner or the owner's designated representative.

26.5.6.3.2 Supervisory Signals.

Upon receipt of a supervisory signal that is not prearranged, the remote station shall perform the following actions:

- (1) Immediately notify the owner or the owner's designated representative.
- (2) Where required, notify the authority having jurisdiction.

26.5.6.3.3 Trouble Signals.

26.5.6.3.3.1

Upon receipt of a trouble signal that is not prearranged, the remote station shall perform the following action:

- (1) Immediately notify the owner or the owner's designated representative.
- (2) Where required, notify the authority having jurisdiction.

26.5.6.3.3.2

For trouble signals, the remote station operator shall be permitted to delay transmission for 15 minutes to allow for a status change in the signal that would resolve the trouble signal.

26.5.6.3.3.3

If a trouble restoral signal is received within 15 minutes, the operator shall not be required to notify the owner or the owner's designated representative or the authority having jurisdiction.

26.5.7 Operations.

All operator controls at the remote supervising station shall be operated at the beginning of each shift or change in personnel, and the status of all alarm, supervisory, and trouble signals shall be noted and recorded.

26.5.8 Record Keeping and Reporting.**26.5.8.1**

A permanent record of the time, date, and location of all signals and restorations received and the action taken shall be maintained for at least 1 year and shall be able to be provided to the authority having jurisdiction.

26.5.8.2

Testing and maintenance records shall be retained as required in 14.6.3.

26.5.8.3

Records shall be permitted to be created by manual means.

26.5.9 Inspection, Testing, and Maintenance.**26.5.9.1**

Inspection, testing, and maintenance for remote supervising stations shall be performed in accordance with Chapter 14.

26.5.9.2

Where required, inspection, testing, and maintenance reports shall be submitted to the authority having jurisdiction in a form acceptable to the authority having jurisdiction.

26.6 Communications Methods for Supervising Station Alarm Systems.**26.6.1* Application.****26.6.1.1**

Section 26.6 shall apply to the following:

- (1) Transmitter located at the protected premises
- (2) Transmission channel between the protected premises and the supervising station or subsidiary station
- (3) If used, any subsidiary station and its communications channel
- (4) Signal receiving, processing, display, and recording equipment at the supervising station

26.6.1.2

The minimum signaling requirement shall be an alarm signal, trouble signal, and supervisory signal, where used.

26.6.2 General.

26.6.2.1 Master Control Unit.

If the protected premises master control unit is neither integral to nor collocated with the supervising station, the communications methods of Section 26.6 shall be used to connect the protected premises to either a subsidiary station, if used, or a supervising station for central station service in accordance with Section 26.3, proprietary station in accordance with Section 26.4, or remote station in accordance with Section 26.5.

26.6.2.2* Alternate Methods.

Nothing in Chapter 26 shall be interpreted as prohibiting the use of listed equipment using alternate communications methods that provide a level of reliability and supervision consistent with the requirements of Chapter 10 and the intended level of protection.

26.6.2.3 Remote Programming of Transmitting Technologies.

Remote programming of protected premises transmission technologies covered by 26.6.3, 26.6.4, and 26.6.5 shall be permitted when all the conditions in 26.6.2.3.1 through 26.6.2.3.9 are met.

26.6.2.3.1

A qualified person in accordance with 10.6.3.2 or 10.6.3.3 shall be at the protected premises at all times during the remote programming.

26.6.2.3.2

The fire department communications center shall be notified of the potential loss of connectivity between the protective premises and the supervising station.

26.6.2.3.3

The supervising station shall be notified of the potential loss of connectivity between the protected premises and the supervising station.

26.6.2.3.4

The responsible party for the alarm system shall be notified that alarm signals might not automatically transmit to the supervising station during the remote programming process.

26.6.2.3.5

A mitigation plan shall be initiated by the responsible party for the alarm system, which assigns an individual, or individuals, who will be charged with contacting the communications center in the event that an actual alarm occurs during the remote programming of the transmitting equipment.

26.6.2.3.6

Where the transmission technology is integral to the control unit, reacceptance testing shall occur in accordance with 14.4.2.5 and item 4, Supervising station alarm systems — transmission equipment, in Table 14.4.3.2 when executive software for the transmission technology is changed.

26.6.2.3.7

Where the transmission technology is integral to the control unit, reacceptance testing shall occur in accordance with 14.4.2.4 and item 4, Supervising station alarm systems — transmission equipment, in Table 14.4.3.2 when site-specific software for the transmission technology is changed.

26.6.2.3.8

Where the transmission technology is not integral to the control unit, testing shall occur in accordance with item 4, Supervising station alarm systems — transmission equipment, in Table 14.4.3.2.

26.6.2.3.9

Parties notified in 26.6.2.3.2, 26.6.2.3.3, and 26.6.2.3.4 shall be notified when remote programming and testing have been completed.

26.6.2.4* Equipment.**26.6.2.4.1**

Alarm system equipment and installations shall comply with Federal Communications Commission (FCC) rules and regulations, as applicable.

26.6.2.4.2

Equipment shall be installed in compliance with *NFPA 70*.

26.6.2.4.3

The external antennas of all radio transmitting and receiving equipment shall be protected in order to minimize the possibility of damage by static discharge or lightning.

26.6.2.5 Communications Technologies.

The communications methods used to transmit signals to supervising stations shall meet the requirements of 26.6.3 for performance-based technologies, or 26.6.4 or 26.6.5 for prescriptive-based technologies.

26.6.3* Performance-Based Technologies.**26.6.3.1 Conformance.**

Communications methods operating on principles different from specific methods covered by this chapter shall be permitted to be installed if they conform to the performance requirements of this section and to all other applicable requirements of this Code.

26.6.3.2 Communications Integrity.

Provision shall be made to monitor the integrity of the transmission technology and its communications path.

26.6.3.3 Single Communications Path.

Unless prohibited by the enforcing authority, governing laws, codes, or standards, where a single communications path is used, the following requirements shall be met:

- (1) The path shall be supervised at an interval of not more than 60 minutes.
- (2) A failure of the path shall be annunciated at the supervising station within not more than 60 minutes.
- (3) The failure to complete a signal transmission shall be annunciated at the protected premises in accordance with Section 10.16.

26.6.3.4 Multiple Communications Paths.

If multiple transmission paths are used, the following requirements shall be met:

- (1) Each path shall be supervised within not more than 6 hours.
- (2) The failure of any path of a multipath system shall be annunciated at the supervising station within not more than 6 hours.
- (3) Multiple communications paths shall be arranged so that a single point of failure shall not cause more than a single path to fail.
- (4) The failure to complete a signal transmission shall be annunciated at the protected premises in accordance with Section 10.16.

26.6.3.5* Single Technology.

A single technology shall be permitted to be used to create the multiple paths provided that the requirements of 26.6.3.4(1) through 26.6.3.4(4) are met.

26.6.3.6 Spare System Unit Equipment.

An inventory of spare equipment shall be maintained at the supervising station such that any failed piece of equipment can be replaced and the systems unit restored to full operation within 30 minutes of failure.

26.6.3.7 Loading Capacity of System Unit.**26.6.3.7.1**

The maximum number of independent fire alarm systems connected to a single system unit shall be limited to 512.

26.6.3.7.2

If duplicate spare system units are maintained at the supervising station and switchover can be achieved in 30 seconds, then the system capacity shall be permitted to be unlimited.

26.6.3.8 End-to-End Communication Time for Alarm.

The maximum duration between the initiation of an alarm signal at the protected premises, transmission of the signal, and subsequent display and recording of the alarm signal at the supervising station shall not exceed 90 seconds.

26.6.3.9 Unique Identifier.

If a transmitter shares a transmission or communications channel with other transmitters, it shall have a unique transmitter identifier.

26.6.3.10 Recording and Display Rate of Subsequent Alarms.

Recording and display of alarms at the supervising station shall be at a rate no slower than one complete signal every 10 seconds.

26.6.3.11 Signal Error Detection and Correction.**26.6.3.11.1**

Communication of alarm, supervisory, and trouble signals shall be in accordance with this section to prevent degradation of the signal in transit, which in turn would result in either of the following:

- (1) Failure of the signal to be displayed and recorded at the supervising station
- (2) Incorrect corrupted signal displayed and recorded at the supervising station

26.6.3.11.2

Reliability of the signal shall be achieved by any of the following:

- (1) Signal repetition — multiple transmissions repeating the same signal
- (2) Parity check — a mathematical check sum algorithm of a digital message that verifies correlation between transmitted and received message
- (3) An equivalent means to 26.6.3.11.1(1) or 26.6.3.11.1(2) that provides a certainty of 99.99 percent that the received message is identical to the transmitted message

26.6.3.12* Sharing Communications Equipment On-Premises.

If the fire alarm transmitter is sharing on-premises communications equipment, the shared equipment shall be listed as communications or information technology equipment.

26.6.3.13 Secondary Power.**26.6.3.13.1* Premises Equipment.**

The secondary power capacity for all transmitters and shared equipment necessary for the transmission of alarm, supervisory, trouble, and other signals located at the protected premises shall be a minimum of 24 hours or as permitted by 10.7.7.3.1(2), 26.6.3.13.1.1, or 26.6.3.13.1.2.

26.6.3.13.1.1*

Secondary power capacity for shared equipment shall be permitted to have a capacity of 8 hours where acceptable to the authority having jurisdiction and where a risk analysis is performed to ensure acceptable availability is provided.

26.6.3.13.1.2*

Secondary power capacity for shared and premises equipment used in additional communications paths shall not be required where the first communications path meets the performance requirements of 26.6.3.3.

26.6.3.13.2 Supervising Station.

Secondary power capacity for all equipment necessary for reception of alarm, supervisory, trouble, and other signals located at the supervising station shall comply with 10.7.7.

26.6.3.14 Unique Flaws Not Covered by This Code.

If a communications technology has a unique flaw that could result in the failure to communicate a signal, the implementation of that technology for alarm signaling shall compensate for that flaw so as to eliminate the risk of missing an alarm signal.

26.6.4 Digital Communicator Systems.**26.6.4.1* Digital Alarm Communicator Transmitter (DACT) Used as a Signaling Interface.****26.6.4.1.1**

The requirements of 26.6.4.2 shall not apply when a DACT is used as a signaling interface from a fire alarm control unit to another listed communication means.

26.6.4.1.2

The listed communication means shall meet the requirements of either 26.6.3 or 26.6.5.

26.6.4.2 DACT.

26.6.4.2.1* Managed Facilities-Based Voice Network.

A DACT shall be connected to a managed facilities-based voice network upstream of any private telephone system at the protected premises.

26.6.4.2.1.1

The connections to a managed facilities-based voice network shall be under the control of the subscriber for whom service is being provided by the supervising station alarm system.

26.6.4.2.1.2

Special attention shall be required to ensure that this connection is made only to a loop start telephone circuit and not to a ground start telephone circuit.

26.6.4.2.2 Signal Verification.

All information exchanged between the DACT at the protected premises and the digital alarm communicator receiver (DACR) at the supervising or subsidiary station shall comply with 26.6.4.2.2.1 and 26.6.4.2.2.2.

26.6.4.2.2.1

Information exchanged shall be by digital code or some other approved means.

26.6.4.2.2.2

Signal verification shall be by signal repetition, digital parity check, or other approved means.

26.6.4.2.3* Requirements for DACTs.**26.6.4.2.3.1**

A DACT shall be configured so that, when it is required to transmit a signal to the supervising station, it shall seize the telephone line (going off-hook) at the protected premises and disconnect an outgoing or incoming telephone call and prevent use of the telephone line for outgoing telephone calls until signal transmission has been completed. A DACT shall not be connected to a party line telephone facility.

26.6.4.2.3.2

A DACT shall have the means to satisfactorily obtain a dial tone, dial the number(s) of the DACR, obtain verification that the DACR is able to receive signals, transmit the signal, and receive acknowledgment that the DACR has accepted that signal. In no event shall the time from going off-hook to on-hook exceed 90 seconds per attempt.

26.6.4.2.3.3*

A DACT shall have means to reset and retry if the first attempt to complete a signal transmission sequence is unsuccessful. A failure to complete connection shall not prevent subsequent attempts to transmit an alarm where such alarm is generated from any other initiating device circuit or signaling line circuit, or both. Additional attempts shall be made until the signal transmission sequence has been completed, up to a minimum of 5 and a maximum of 10 attempts.

26.6.4.2.3.4

If the maximum number of attempts to complete the sequence is reached, an indication of the failure shall be made at the premises.

26.6.4.2.4 Transmission Channels.

26.6.4.2.4.1

A system employing a DACT shall employ a single telephone line (number) and one of the following transmission means:

- (1) One-way private radio alarm system
- (2) Two-way RF multiplex system
- (3) Transmission means complying with 26.6.3
- (4) A second telephone line (number), where all of the following are met:
 - (a) Access to one of the technologies in (1), (2), or (3) is not available at the protected premises.
 - (b) The authority having jurisdiction approves the arrangement.
 - (c) The DACT is programmed to call a second DACR line (number) when the signal transmission sequence to the first called line (number) is unsuccessful.
 - (d) The DACT is capable of selecting the operable means of transmission in the event of failure of the other means.
 - (e) Each telephone line is tested in accordance with 26.6.4.2.4.2 or at alternating 6-hour intervals.

26.6.4.2.4.2

The following requirements shall apply to all combinations listed in 26.6.4.2.4.1:

- (1) The means for supervising each channel shall be in a manner approved for the method of transmission employed.
- (2) If a signal has not been processed over the subject channel in the previous 6 hours, a test signal shall be processed.
- (3) The failure of either channel shall send a trouble signal on the other channel within 4 minutes.
- (4) When one transmission channel has failed, all status change signals shall be sent over the other channel.
- (5) The primary channel shall be capable of delivering an indication to the DACT that the message has been received by the supervising station.
- (6)* Unless the primary channel is known to have failed, the first attempt to send a status change signal shall use the primary channel.
- (7) Simultaneous transmission over both channels shall be permitted.
- (8) Failure of telephone lines (numbers) shall be annunciated locally.

26.6.4.2.5 DACT Transmission Means.

The following requirements shall apply to all DACTs:

- (1) A DACT shall be connected to two separate means of transmission at the protected premises so that a single point of failure on one means of transmission shall not affect the second means of transmission.
- (2) The DACT shall be capable of selecting the operable means of transmission in the event of failure of the other means.
- (3) The primary means of transmission shall be a telephone line (number) connected to a managed facilities-based voice network.
- (4)* The first transmission attempt shall utilize the primary means of transmission.
- (5) Each DACT shall be programmed to call a second receiver when the signal transmission sequence to the first called line (number) is unsuccessful.
- (6) Each transmission means shall automatically initiate and complete a test signal transmission sequence to its associated receiver at least once every 6 hours.
- (7) A successful signal transmission sequence of any other type, within the same 6-hour period, shall fulfill the requirement to verify the integrity of the reporting system, provided that signal processing is automated so that 6-hour delinquencies are individually acknowledged by supervising station personnel.
- (8)* If a DACT is programmed to call a telephone line (number) that is call forwarded to the line (number) of the DACR, a means shall be implemented to verify the integrity of the call forwarding feature every 4 hours.

26.6.4.3 Digital Alarm Communicator Receiver (DACR).**26.6.4.3.1 Equipment.****26.6.4.3.1.1**

Spare DACRs shall be provided in the supervising or subsidiary station.

26.6.4.3.1.2

Spare DACRs shall be online or able to be switched into the place of a failed unit within 30 seconds after detection of failure.

26.6.4.3.1.3

One spare DACR shall be permitted to serve as a backup for up to five DACRs in use.

26.6.4.3.1.4

The number of incoming telephone lines to a DACR shall be limited to eight lines, unless the signal-receiving, processing, display, and recording equipment at the supervising or subsidiary station is duplicated and a switchover is able to be accomplished in less than 30 seconds with no loss of signal during this period, in which case the number of incoming lines to the unit shall be permitted to be unlimited.

26.6.4.3.2 Transmission Channels.**26.6.4.3.2.1***

The DACR equipment at the supervising or subsidiary station shall be connected to a minimum of two separate incoming telephone lines (numbers).

26.6.4.3.2.2

The lines (numbers) shall have the following characteristics:

- (1) If the lines (numbers) are in a single hunt group, they shall be individually accessible; otherwise, separate hunt groups shall be required.
- (2) The lines (numbers) shall be used for no other purpose than receiving signals from a DACT.
- (3) The lines (numbers) shall be unlisted.

26.6.4.3.2.3

The failure of any telephone line (number) connected to a DACR due to loss of line voltage shall be annunciated visually and audibly in the supervising station.

26.6.4.3.2.4*

The loading capacity for a hunt group shall be capable of demonstrating a 90 percent probability of immediately answering an incoming call or be in accordance with Table 26.6.4.3.2.4 and the following:

- (1) Table 26.6.4.3.2.4 shall be based on an average distribution of calls and an average connected time of 30 seconds for a message.
- (2) The loading figures in Table 26.6.4.3.2.4 shall presume that the lines are in a hunt group (i.e., DACT is able to access any line not in use).
- (3) A single-line DACR shall not be allowed for any of the configurations shown in Table 26.6.4.3.2.4.

Table 26.6.4.3.2.4 Loading Capacities for Hunt Groups

<u>System Loading at the Supervising Station</u>	<u>Number of Lines in Hunt Group</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5-8</u>
With DACR lines processed in parallel					
Number of initiating circuits	NA	5,000	10,000	20,000	20,000
Number of DACTs	NA	500	1,500	3,000	3,000
With DACR lines processed serially (put on hold, then answered one at a time)					
Number of initiating circuits	NA	3,000	5,000	6,000	6,000
Number of DACTs	NA	300	800	1,000	1,000

NA: Not allowed.

26.6.4.3.2.5

Each supervised burglar alarm (open/close) or each suppressed guard's tour transmitter shall reduce the allowable DACTs as follows:

- (1) Up to a four-line hunt group, by 10
- (2) Up to a five-line hunt group, by 7
- (3) Up to a six-line hunt group, by 6
- (4) Up to a seven-line hunt group, by 5
- (5) Up to an eight-line hunt group, by 4

26.6.4.3.2.6

Each guard's tour transmitter shall reduce the allowable DACTs as follows:

- (1) Up to a four-line hunt group, by 30
- (2) Up to a five-line hunt group, by 21
- (3) Up to a six-line hunt group, by 18
- (4) Up to a seven-line hunt group, by 15
- (5) Up to an eight-line hunt group, by 12

26.6.4.3.2.7

A signal shall be received on each individual incoming DACR line at least once every 6 hours.

26.6.4.3.2.8

The failure to receive a test signal from the protected premises shall be treated as a trouble signal.

26.6.5 Radio Systems.**26.6.5.1 Two-Way Radio Frequency (RF) Multiplex Systems.****26.6.5.1.1 Maximum Operating Time.**

The maximum end-to-end operating time parameters allowed for a two-way RF multiplex system shall be as follows:

- (1) The maximum allowable time lapse from the initiation of a single alarm signal until it is recorded at the supervising station shall not exceed 90 seconds. When any number of subsequent alarm signals occur at any rate, they shall be recorded at a rate no slower than one every additional 10 seconds.
- (2) The maximum allowable time lapse from the occurrence of an adverse condition in any transmission channel until recording of the adverse condition is started shall not exceed 200 seconds for Type 4 and Type 5 systems. The requirements of 26.6.5.1.4 shall apply.
- (3) In addition to the maximum operating time allowed for alarm signals, the requirements of one of the following shall be met:
 - (4) A system unit that has more than 500 initiating device circuits shall be able to record not less than 50 simultaneous status changes within 90 seconds.
 - (5) A system unit that has fewer than 500 initiating device circuits shall be able to record not less than 10 percent of the total number of simultaneous status changes within 90 seconds.

26.6.5.1.2 Supervisory and Control Functions.

Facilities shall be provided at the supervising station for the following supervisory and control functions of the supervising or subsidiary station and the repeater station radio transmitting and receiving equipment, which shall be accomplished via a supervised circuit where the radio equipment is remotely located from the system unit:

- (1) RF transmitter in use (radiating)
- (2) Failure of ac power supplying the radio equipment
- (3) RF receiver malfunction
- (4) Indication of automatic switchover
- (5) Independent deactivation of either RF transmitter controlled from the supervising station

26.6.5.1.3 Transmission Channel.**26.6.5.1.3.1**

The RF multiplex transmission channel shall terminate in an RF transmitter/receiver at the protected premises and in a system unit at the supervising or subsidiary station.

26.6.5.1.3.2

Operation of the transmission channel shall conform to the requirements of this Code whether channels are private facilities, such as microwave, or leased facilities furnished by a communications utility company.

26.6.5.1.3.3

If private signal transmission facilities are used, the equipment necessary to transmit signals shall also comply with requirements for duplicate equipment or replacement of critical components, as described in 26.6.6.3.

26.6.5.1.4* Categories.

Two-way RF multiplex systems shall be divided into Type 4 or Type 5 classifications based on their ability to perform under adverse conditions.

26.6.5.1.4.1

A Type 4 system shall have two or more control sites configured as follows:

- (1) Each site shall have an RF receiver interconnected to the supervising or subsidiary station by a separate channel.
- (2) The RF transmitter/receiver located at the protected premises shall be within transmission range of at least two RF receiving sites.
- (3) The system shall contain two RF transmitters that are one of the following:
 - (4) Located at one site with the capability of interrogating all of the RF transmitters/receivers on the premises
 - (5) Dispersed with all of the RF transmitters/receivers on the premises having the capability to be interrogated by two different RF transmitters
- (6) Each RF transmitter shall maintain a status that allows immediate use at all times. Facilities shall be provided in the supervising or subsidiary station to operate any off-line RF transmitter at least once every 8 hours.
- (7) Any failure of one of the RF receivers shall in no way interfere with the operation of the system from the other RF receiver. Failure of any receiver shall be annunciated at the supervising station.
- (8) A physically separate channel shall be required between each RF transmitter or RF receiver site, or both, and the system unit.

26.6.5.1.4.2

A Type 5 system shall have a single control site configured as follows:

- (1) A minimum of one RF receiving site
- (2) A minimum of one RF transmitting site

26.6.5.1.5 Loading Capacities.**26.6.5.1.5.1**

The loading capacities of two-way RF multiplex systems shall be based on the overall reliability of the signal receiving, processing, display, and recording equipment at the supervising or subsidiary station and the capability to transmit signals during adverse conditions of the transmission channels.

26.6.5.1.5.2

Allowable loading capacities shall comply with Table 26.6.5.1.5.2.

Table 26.6.5.1.5.2 Loading Capacities for Two-Way RF Multiplex Systems

	<u>System Type</u>	
	<u>Type 4</u>	<u>Type 5</u>
	<u>Trunks</u>	
Maximum number of alarm service initiating device circuits per primary trunk facility	5,120	1,280
Maximum number of leg facilities for alarm service per primary trunk facility	512	128
Maximum number of leg facilities for all types of alarm service per secondary trunk facility*	128	128
Maximum number of all types of initiating device circuits per primary trunk facility in any combination	10,240	2,560
Maximum number of leg facilities for types of alarm service per primary trunk facility in any combination*	1,024	256
System Units at the Supervising Station	-	-
Maximum number of all types of initiating device circuits per system unit*	10,240	10,240
Maximum number of protected buildings and premises per system unit	512	512
Maximum number of alarm service initiating device circuits per system	5,120	5,120
Systems Emitting from Subsidiary Station†	—	—

*Includes every initiating device circuit (e.g., waterflow, alarm, supervisory, guard, burglary, hold-up).

†Same as system units at the supervising station.

26.6.5.1.5.3

The capacity of a system unit shall be permitted to be unlimited if the signal-receiving, processing, display, and recording equipment are duplicated at the supervising station and a switchover is able to be accomplished in not more than 30 seconds, with no loss of signals during this period.

26.6.5.1.6 Adverse Conditions.**26.6.5.1.6.1**

The occurrence of an adverse condition on the transmission channel between a protected premises and the supervising station that prevents the transmission of any status change signal shall be automatically indicated and recorded at the supervising station.

26.6.5.1.6.2

The indication and recording of the adverse condition shall identify the affected portions of the system so that the supervising station operator will be able to determine the location of the adverse condition by trunk or leg facility, or both.

26.6.5.1.6.3

For two-way RF multiplex systems that are part of a central station alarm system, restoration of service to the affected portions of the system shall be automatically recorded.

26.6.5.1.6.4

When service is restored to a two-way RF multiplex system, the first status change of any initiating device circuit, any initiating device directly connected to a signaling line circuit, or any combination thereof that occurred at any of the affected premises during the service interruption also shall be recorded.

26.6.5.2* One-Way Private Radio Alarm Systems.**26.6.5.2.1 Independent Receivers.****26.6.5.2.1.1**

The requirements of 26.6.5.2 for a radio alarm repeater station receiver (RARSR) shall be satisfied if the signals from each radio alarm transmitter (RAT) are received and supervised, in accordance with CHAPTER 26, by at least two independently powered, independently operating, and separately located RARSRs or radio alarm supervising station receivers (RASSRs), or by one of each.

26.6.5.2.1.2

At least two separate paths shall be provided from a RAT to the ultimate RASSR.

26.6.5.2.1.3

Only one path to the RASSR shall be required to be utilized in the event alarms can be transmitted from a RAT to the RASSR and the RAT has the ability to receive a positive acknowledgment that the RASSR has received the signal.

26.6.5.2.2* Maximum Operating Time.

The end-to-end operating time parameters allowed for a one-way radio alarm system shall be as follows:

- (1) There shall be a 90 percent probability that the time between the initiation of a single alarm signal until it is recorded at the supervising station will not exceed 90 seconds.
- (2) There shall be a 99 percent probability that the time between the initiation of a single alarm signal until it is recorded at the supervising station will not exceed 180 seconds.
- (3) There shall be a 99.999 percent probability that the time between the initiation of a single alarm signal until it is recorded at the supervising station will not exceed 7.5 minutes (450 seconds), at which time the RAT shall cease transmitting. When any number of subsequent alarm signals occurs at any rate, they shall be recorded at an average rate no slower than one every additional 10 seconds.
- (4) In addition to the maximum operating time allowed for alarm signals, the system shall be able to record not less than 12 simultaneous status changes within 90 seconds at the supervising station.
- (5) The system shall be supervised to ensure that at least two independent RARSRs or one RARSR and one independent RASSR are receiving signals for each RAT during each 24-hour period.

26.6.5.2.3 Supervision.**26.6.5.2.3.1**

Equipment shall be provided at the supervising station for the supervisory and control functions of the supervising or subsidiary station and for the repeater station radio transmitting and receiving equipment.

26.6.5.2.3.2

A supervised circuit shall be provided where the radio equipment is remotely located from the system unit and the conditions of 26.6.5.2.3.2(A) through 26.6.5.2.3.2(C) are met.

(A)

The following conditions shall be supervised at the supervising station:

- (1) Failure of ac power supplying the radio equipment
- (2) Malfunction of RF receiver
- (3) Indication of automatic switchover, if applicable

(B)

Interconnections between elements of transmitting equipment, including any antennas, shall be supervised either to cause an indication of failure at the protected premises or to transmit a trouble signal to the supervising station.

(C)

Personnel shall be dispatched to arrive within 12 hours to initiate maintenance after detection of primary power failure.

26.6.5.2.4 Transmission Channels.

Transmission channels shall comply with 26.6.5.2.4.1 through 26.6.5.2.4.6.

26.6.5.2.4.1

The one-way RF transmission channel shall originate with a RAT at the protected premises and shall terminate at the RF receiving system of an RARSR or RASSR capable of receiving transmissions from such transmitting devices.

26.6.5.2.4.2

A receiving network transmission channel shall terminate at an RARSR at one end and with either another RARSR or an RASSR at the other end.

26.6.5.2.4.3

Operation of receiving network transmission channels shall conform to the requirements of this Code whether channels are private facilities, such as microwave, or leased facilities furnished by a communications utility company.

26.6.5.2.4.4

If private signal transmission facilities are used, the equipment necessary to transmit signals shall also comply with requirements for duplicate equipment or replacement of critical components as described in 26.6.6.3.

26.6.5.2.4.5

The system shall provide information that indicates the quality of the received signal for each RARSR supervising each RAT in accordance with 26.6.5.2 and shall provide information at the supervising station when such signal quality falls below the minimum signal quality levels set forth in 26.6.5.2.

26.6.5.2.4.6

Each RAT shall be installed in such a manner so as to provide a signal quality over at least two independent one-way RF transmission channels, of the minimum quality level specified, that satisfies the performance requirements in 26.6.2.4 and 26.6.6.

26.6.5.2.5 System Categories.

One-way radio alarm systems shall be divided into two categories on the basis of the following number of RASSRs present in the system:

- (1) A Type 6 system shall have one RASSR and at least two RARSRs.
- (2) A Type 7 system shall have more than one RASSR and at least two RARSRs.
- (3) In a Type 7 system, when more than one RARSR is out of service and, as a result, any RATs are no longer being supervised, the affected supervising station shall be notified.
- (4) In a Type 6 system, when any RARSR is out of service, a trouble signal shall be annunciated at the supervising station.

26.6.5.2.6 Loading Capacities.**26.6.5.2.6.1**

The loading capacities of one-way radio alarm systems shall be based on the overall reliability of the signal-receiving, processing, display, and recording equipment at the supervising or subsidiary station and the capability to transmit signals during adverse conditions of the transmission channels.

26.6.5.2.6.2

Loading capacities shall comply with 26.6.5.2.6.2(A) and 26.6.5.2.6.2(B).

(A)

Allowable loading capacities shall be in accordance with Table 26.6.5.2.6.2(A), except as modified by the following:

- (1) Each guard's tour transmitter shall reduce the allowable RATs by 15.
- (2) Each supervised burglar alarm (open/close) or each suppressed guard's tour transmitter shall reduce the allowable RATs by 5.

Table 26.6.5.2.6.2(A) Loading Capacities of One-Way Radio Alarm Systems

	<u>System Type</u>	
	<u>Type 6</u>	<u>Type 7</u>
<u>Radio Alarm Repeater Station Receiver (RARSR)</u>		
Maximum number of fire alarm service initiating device circuits per RARSR	5,120	5,120
Maximum number of RATs for fire	512	512
Maximum number of all types of initiating device circuits per RARSR in any combination*	10,240	10,240
Maximum number of RATs for all types of fire alarm service per RARSR in any combination*	1,024	1,024
System Units at the Supervising Station	-	-
Maximum number of all types of initiating device circuits per system unit*	10,240	10,240
Maximum number of fire-protected buildings and premises per system unit	512	512
Maximum number of fire alarm service initiating device circuits per system unit	5,120	5,120

*Includes every initiating device circuit (e.g., waterflow, fire alarm, supervisory, guard, burglary, hold-up).

(B)

If the signal-receiving, processing, display, and recording equipment is duplicated at the supervising station and a switchover is able to be accomplished in not more than 30 seconds, with no loss of signals during this period, the capacity of a system unit shall be permitted to be unlimited.

26.6.5.2.7 Adverse Conditions.

The system shall be supervised to ensure that at least two independent radio alarm repeater station receivers (RARSRs) are receiving signals for each radio alarm transmitter (RAT) during each 24-hour period.

26.6.5.2.7.1

The occurrence of a failure to receive a signal by either RARSR shall be automatically indicated and recorded at the supervising station.

26.6.5.2.7.2

The indication shall identify which RARSR failed to receive such supervisory signals.

26.6.5.2.7.3

Received test signals shall not be required to be indicated at the supervising station.

26.6.5.2.8 Wireless Mesh Networks (WMN).

A wireless mesh network utilizing listed components satisfies the requirements of 26.6.5.2.

26.6.6 Display and Recording Requirements for All Transmission Technologies.**26.6.6.1***

Any status changes, including the initiation or restoration to normal of a trouble condition, that occur in an initiating device or in any interconnecting circuits or equipment, including the local protected premises controls from the location of the initiating device(s) to the supervising station, shall be presented in a form to expedite prompt operator interpretation.

26.6.6.2

Status change signals shall provide the following information:

- (1) Identification of the type of signal to show whether it is an alarm, supervisory, delinquency, or trouble signal
- (2) Identification of the signal to differentiate between an initiation of an alarm, a supervisory, a delinquency, or a trouble signal and a clearing from one or more of these conditions
- (3) Identification of the site of origin of each status change signal
- (4)* Identification of specific types of signals that dictate a different response

26.6.6.3*

If duplicate equipment for signal receiving, processing, display, and recording is not provided for supervising stations other than proprietary station systems, the installed equipment shall be designed so that any critical assembly is able to be replaced from on-premises spares.

26.6.6.4*

The system shall be able to be restored to service within 30 minutes.

26.6.6.5*

Any method of recording and display or indication of change of status signals shall be permitted, provided that the status signals are not test signals required by 26.6.4.2.5 at a DACR and all of the following conditions are met:

- (1) Each change of status signal requiring action to be taken by the operator shall result in an audible signal and not less than two independent methods of identifying the type, condition, and location of the status change.
- (2) Each change of status signal shall be automatically recorded. The record shall provide the type of signal, condition, and location, as required by 26.6.6.1, in addition to the time and date the signal was received.
- (3) Failure of an operator to acknowledge or act upon a change of status signal shall not prevent subsequent alarm signals from being received, indicated or displayed, and recorded.
- (4) Change of status signals requiring action to be taken by the operator shall be displayed or indicated in a manner that clearly differentiates them from those that have been acted upon and acknowledged.
- (5) Each incoming signal to a DACR shall cause an audible signal that persists until manually acknowledged.

26.6.7 Testing and Maintenance Requirements for All Transmission Technologies.

Testing and maintenance of communications methods shall be in accordance with the requirements of Chapter 14.

Statement of Problem and Substantiation for Public Comment

clear delineation of systems

Related Item

- 120 volt duct detectors

Submitter Information Verification

Submitter Full Name: josiah Cassetti

Organization: metro

Street Address:

City:

State:

Zip:

Submittal Date: Sat Mar 07 22:35:02 EST 2020

Committee: SIG-SSS



Public Comment No. 325-NFPA 72-2020 [Section No. 26.1]

The Technical Committee is advised to review the new Chapter 11 on cybersecurity and determine whether it should be referenced in the Application statement for this Chapter.

26.1* Application.

The performance, installation, and operation of alarm systems at a continuously attended supervising station and between the protected premises and the continuously attended supervising station shall comply with the requirements of this chapter.

26.1.1*

Where any system regulated by this Code sends signals to a supervising station, the entire system shall become a supervising station alarm system.

26.1.2

The requirements of Chapters 7, 10, 12, 14, and 23 shall apply unless otherwise noted in this chapter.

26.1.3

The requirements of this chapter shall not apply to Chapter 29 unless otherwise noted.

Additional Proposed Changes

<u>File Name</u>	<u>Description Approved</u>
CorrelatingNoteNo._83.pdf	

Statement of Problem and Substantiation for Public Comment

NOTE: This Public Comment appeared as Correlating Committee Note 83 in the First Draft Report.

The Technical Committee is advised to review the new Chapter 11 on cybersecurity and determine whether it should be referenced in the Application statement for this Chapter.

Related Item

- CN No. 83

Submitter Information Verification

Submitter Full Name: CC on SIG-AAC
Organization: NFPA 72 Correlating Committee
Street Address:
City:
State:
Zip:
Submittal Date: Thu May 07 09:51:30 EDT 2020
Committee: SIG-SSS



Public Comment No. 132-NFPA 72-2020 [Section No. 26.1.2]

26.1.2

The requirements of Chapters 7, 10, 11, 12, 14, and 23 shall apply unless otherwise noted in this chapter.

Statement of Problem and Substantiation for Public Comment

Cybersecurity measures should be applied to supervising station alarm systems to mitigate cyber threats.

Related Item

- correlcomm note #83

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submittal Date: Tue Apr 28 14:19:07 EDT 2020

Committee: SIG-SSS



Public Comment No. 133-NFPA 72-2020 [Section No. 26.2.1.4]

26.2.1.4 –

~~Retransmission of subsequent signals shall comply with 26.2.1.4.1 and 26.2.1.4.2 .~~

26.2.1.4.1 –

~~The supervising station shall continue to retransmit subsequent signals from a protected premises to the communications center until advised otherwise by the communications center.~~

26.2.1.4.2 –

~~Subsequent signals that are suppressed by the communications center shall be permitted to be suppressed for a maximum of one hour.~~

-

Statement of Problem and Substantiation for Public Comment

As written, these requirements do not address the potential for a subsequent unrelated alarm in a different area of the same facility being missed during the one-hour signal suppression. The requirements do not address the potential for another incident that occurs 30 minutes after the first incident from which the fire service as already returned to the station. It is also unclear as to what happens to the collection of suppressed signals after one hour.

Related Item

- FR 5228

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

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State:

Zip:

Submittal Date: Tue Apr 28 14:22:06 EDT 2020

Committee: SIG-SSS



Public Comment No. 134-NFPA 72-2020 [Section No. 26.2.10]

26.2.10 Cybersecurity Classification.

Cybersecurity design standards and certification requirements shall be in accordance with Section 40 Chapter 11 . 5.

Statement of Problem and Substantiation for Public Comment

Revised to correlate with the new cyber security chapter.

Related Item

- FR 5197 and correlcomm note #23

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submittal Date: Tue Apr 28 14:24:46 EDT 2020

Committee: SIG-SSS



Public Comment No. 326-NFPA 72-2020 [Section No. 26.2.10]

The Technical Committee is directed to revise or delete this text to correlate with new Chapter 11.

26.2.10 Cybersecurity Classification.

Cybersecurity design standards and certification requirements shall be in accordance with Section 10.5.

Additional Proposed Changes

<u>File Name</u>	<u>Description Approved</u>
CorrelatingNoteNo._23.pdf	

Statement of Problem and Substantiation for Public Comment

NOTE: This Public Comment appeared as Correlating Committee Note 23 in the First Draft Report, on First Revision No. 5197.

The Technical Committee is directed to revise or delete this text to correlate with new Chapter 11.

Related Item

• CN No. 23 • FR No. 5197

Submitter Information Verification

Submitter Full Name: CC on SIG-AAC
Organization: NFPA 72 Correlating Committee
Street Address:
City:
State:
Zip:
Submittal Date: Thu May 07 09:54:35 EDT 2020
Committee: SIG-SSS



Public Comment No. 6-NFPA 72-2020 [Section No. 26.5.3.1 [Excluding any Sub-Sections]]

Alarm systems utilizing remote supervising station connections shall transmit alarm and supervisory signals to a facility meeting the requirements of 26.5.3.1.1, 26.5.3.1.2, 26.5.3.1.3, or 26.5.3.1.4.

Statement of Problem and Substantiation for Public Comment

While there is a distinct difference between Remote Supervising Station Service and Central Station Service, the disposition of alarm signals (receipt and retransmission) of both are essentially the same. As a result, a facility that receives and retransmits signals should be required to adhere to the same Standards.

If the local AHJ can hold the remote supervising station and/or central station to a certain Standard, then the local AHJ should be held to the same Standard. If they do not want to meet the requirements of the Standard, then they should not be providing Standards complying service.

It would be appreciated if the technical committee on Supervising Stations (NFPA72 – Chapter 26) would reconsider their Committee Statement that says “Central Station Service requirements are not applicable to Remote Supervising Station Alarm systems.” As stated earlier, the monitoring portion of Central Station Service is essentially the same as Remote Supervising Station monitoring.

The committee statement went on to state that no substantiation has been provided that the other options should not be used. What was submitted was simply that if Remote Supervising Station monitoring from a Supervising Station (one that can provide full service) was acceptable to an AHJ; then, if the AHJ wants to render the same service, they should meet the same criteria for Listing as the Central Station.

Requiring the AHJ to have third party oversight of their facilities that handle alarm signals is a) not expensive, b) ensures that the AHJ’s facility meets the minimum requirements of the Standard (NFPA72, Chapter 26) and most importantly, c) ensures that the end user is getting the same level of monitoring service whether provided by a private company or AHJ.

Related Item

- Public Input No. 32-NFPA 72-2019 (Section 26.5.3.1)

Submitter Information Verification

Submitter Full Name: Richard Kleinman
Organization: AFA Protective Systems Inc
Street Address:
City:
State:
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Submission Date: Tue Feb 25 16:45:03 EST 2020
Committee: SIG-SSS



Public Comment No. 7-NFPA 72-2020 [Section No. 26.5.3.1.1]

26.5.3.1.1

Alarm, supervisory, and trouble signals shall be permitted to be received at a communications center that complies with the requirements of NFPA-1221. 26.3.5.1.

Statement of Problem and Substantiation for Public Comment

While there is a distinct difference between Remote Supervising Station Service and Central Station Service, the disposition of alarm signals (receipt and retransmission) of both are essentially the same. As a result, a facility that receives and retransmits signals should be required to adhere to the same Standards.

If the local AHJ can hold the remote supervising station and/or central station to a certain Standard, then the local AHJ should be held to the same Standard. If they do not want to meet the requirements of the Standard, then they should not be providing Standards complying service.

It would be appreciated if the technical committee on Supervising Stations (NFPA72 – Chapter 26) would reconsider their Committee Statement that says “Central Station Service requirements are not applicable to Remote Supervising Station Alarm systems.” As stated earlier, the monitoring portion of Central Station Service is essentially the same as Remote Supervising Station monitoring.

The committee statement went on to state that no substantiation has been provided that the other options should not be used. What was submitted was simply that if Remote Supervising Station monitoring from a Supervising Station (one that can provide full service) was acceptable to an AHJ; then, if the AHJ wants to render the same service, they should meet the same criteria for Listing as the Central Station.

Requiring the AHJ to have third party oversight of their facilities that handle alarm signals is a) not expensive, b) ensures that the AHJ's facility meets the minimum requirements of the Standard (NFPA72, Chapter 26) and most importantly, c) ensures that the end user is getting the same level of monitoring service whether provided by a private company or AHJ.

Related Item

- Public Input No. 33 NFPA 72-2019 (Section No. 26.5.3.1.1)

Submitter Information Verification

Submitter Full Name: Richard Kleinman
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Submittal Date: Tue Feb 25 16:51:23 EST 2020
Committee: SIG-SSS



Public Comment No. 8-NFPA 72-2020 [Section No. 26.5.3.1.2]

26.5.3.1.2

Alarm, supervisory, and trouble signals shall be permitted to be received at the Listed fire station or at the Listed governmental agency that has public responsibility for taking prescribed action to ensure response upon receipt of an alarm signal.

Statement of Problem and Substantiation for Public Comment

While there is a distinct difference between Remote Supervising Station Service and Central Station Service, the disposition of alarm signals (receipt and retransmission) of both are essentially the same. As a result, a facility that receives and retransmits signals should be required to adhere to the same Standards.

If the local AHJ can hold the remote supervising station and/or central station to a certain Standard, then the local AHJ should be held to the same Standard. If they do not want to meet the requirements of the Standard, then they should not be providing Standards complying service.

It would be appreciated if the technical committee on Supervising Stations (NFPA72 – Chapter 26) would reconsider their Committee Statement that says “Central Station Service requirements are not applicable to Remote Supervising Station Alarm systems.” As stated earlier, the monitoring portion of Central Station Service is essentially the same as Remote Supervising Station monitoring.

The committee statement went on to state that no substantiation has been provided that the other options should not be used. What was submitted was simply that if Remote Supervising Station monitoring from a Supervising Station (one that can provide full service) was acceptable to an AHJ; then, if the AHJ wants to render the same service, they should meet the same criteria for Listing as the Central Station.

Requiring the AHJ to have third party oversight of their facilities that handle alarm signals is a) not expensive, b) ensures that the AHJ's facility meets the minimum requirements of the Standard (NFPA72, Chapter 26) and most importantly, c) ensures that the end user is getting the same level of monitoring service whether provided by a private company or AHJ.

Related Item

- Public Input No. 34 NFPA 72-2019 (Section No. 26.5.3.1.2)

Submitter Information Verification

Submitter Full Name: Richard Kleinman
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Submittal Date: Tue Feb 25 16:55:28 EST 2020
Committee: SIG-SSS



Public Comment No. 255-NFPA 72-2020 [Section No. 26.5.3.1.3]

26.5.3.1.3

~~Where permitted by the authority having jurisdiction, alarm, Alarm, supervisory, and trouble signals shall be permitted to be received at a remote location other than a listed central supervising station during a declared pandemic or national emergency .~~

26.5.3.1.4

~~The provisions allowed by 26.5.3.1.3 shall remain in effect for the duration of the declared pandemic or national emergency and for fourteen days after the conditions related to the declared pandemic have been eased or the national emergency vacated.~~

Statement of Problem and Substantiation for Public Comment

With the new realities of COVID-19, listed central supervising stations are now having a percentage of their monitoring activities taking place outside of the station. This is in part due to social distance requirements and/or essential travel restrictions that have been enacted by state and local governments. These allowances would remain in place during the declared pandemic and/or national emergency and for a period not to exceed fourteen days after state or local restrictions are vacated. Renumber as required. The original 26.5.3.1.3 would remain. The proposed revised paragraph is for those times in which normal operations are relaxed due to a global pandemic or other far reaching event that disrupts all normal business operations. While these may appear to be new material, this Public Comment is being made to a First Input to the original paragraph, thus opening said paragraph to additional revisions. At the time of the First Draft Meeting, no one would have even contemplated a Global Pandemic such as COVID-19 and the disruptions to normal operations that have occurred since. One of the new realities is having a percentage of operators work from their domicile. This added text would permit this to occur during a pandemic or national emergency without needing to obtain pre-approval from AHJ's. This would be a large undertaking to contact each individual jurisdiction and then to provide them the physical location of each monitoring location.

Related Item

- PI 527 • PI 35

Submitter Information Verification

Submitter Full Name: Shane Clary
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Submittal Date: Wed May 06 14:04:31 EDT 2020
Committee: SIG-SSS



Public Comment No. 277-NFPA 72-2020 [Section No. 26.5.3.1.3]

26.5.3.1.3

Where permitted by the authority having jurisdiction, alarm, supervisory, and trouble signals shall be permitted to be received at a listed central supervising station.

26.5.3.1.3

Where permitted by the authority having jurisdiction, Alarm, supervisory, and trouble signals shall be permitted to be received at a listed central supervising station

Statement of Problem and Substantiation for Public Comment

The removal of the modifier, "where permitted by the AHJ" addresses the current imbalance of facilities as defined in Section 26.5.3. Facility types should be considered equivalent to each other. This proposed change accomplishes this. A listed central station, or supervising station is required to meet the following standards: UL 827, and UL 1981. 827 identifies the physical requirements of the facility, and 1981 identifies the hardware and software associated with fire alarm signals. Once an organization meets the listing requirements, a contractual relationship exists between a NRTL, and the listed supervising station, to build, maintain, and operate in compliance with UL 827, Central Station Services, and UL 1981. Mandatory annual site visits are designed to ensure facilities adhere to the contractual requirements of the listing. The initial requirements and the ongoing audits provide a level of security that exceeds the minimum requirements in the Facilities Section, located in 26.5.3. Listed central supervising stations meet the requirements of listed as defined in Section 3.2.5 of the 2016 NFPA 72 edition. Exceeding the minimum requirements of the Facilities Section of 26.5.3, and also meeting the listed definitions should provide to the AHJ the necessary requirements for the monitoring of remote supervising station service. All listed central supervising stations meet the same UL 827 and 1981 requirements. There are over 400 listed supervising stations operating in the United States today. I'm a Committee member of the Household Fire Chapter NFPA 72 for 18 the last 18 years. Household Fire Chapter filed the facilities requirements in Section 26.5.3 of 20 NFPA 72, 2016. In 2019, the Household fire Committee accepted public input, thereby removing the clause where permitted by the AHJ, and now allows listed central supervising stations to monitor household fire alarm systems.

There is no process in place for approving UL Listed facilities, currently the approval method is approved or not approved without any technical guidance. Where permitted by the AHJ remains undefined related to allowing a listed central supervising station to receive signals. Section 26.1.1 states: "Where any system regulated by this code sends signals to a supervising station, the entire system shall become a supervising station alarm system. Section 26.1.2 states the requirements of Chapters 7,10,12,14 and 23 shall apply. Section 26.5.3 states "where permitted by the AHJ" does this mean for every system installed or is the AHJ approving a single instance of an installation? If the approval is for a single installation of a supervising station alarm system there remains a possibility that the AHJ can permit and mandate signals travel almost anywhere. The subscriber is defined as the recipient of a contractual supervising station signal service however the subscriber can only use a supervising station approved by the AHJ or if there is no approved facility then the subscriber shall use a government facility as defined in the facilities section. Not sure many Americans would want this oversight, this should be a choice to use a service similar to where we shop, what doctors we see, what hospital we can go to, what type of vehicle we can purchase, where and how we live. Local jurisdictions have the ability to modify local ordinance for fire alarm services. Let local jurisdictions make their own choices.

In 2009 the NFPA 72 edition did not require AHJ approval for a listed central supervising station to receive signals. In 2013 "where permitted by the AHJ" was added to the code. Why the change, listed service requirements did not change and the supervising stations continued to provide essential signalling services? There were no NFPA studies suggesting listed supervising stations were failing to meet listed requirements ?

Currently UL Listed facilities can supervise Central Station Fire Alarm Systems, Household Fire systems without AHJ Approval. Non supervised stations can supervise household fire systems. A Remote Station fire alarm system which is transmitting alarm events to the same facility supervising both Central Station Systems and Household Fire systems requires AHJ Approval.

Related Item

- PI 527

Submitter Information Verification

Submitter Full Name: Richard Simpson
Organization: Vector Security Inc.
Affiliation: Vector Security
Street Address:
City:
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Zip:
Submittal Date: Wed May 06 15:00:52 EDT 2020
Committee: SIG-SSS



Public Comment No. 220-NFPA 72-2020 [Section No. 26.6.2.3.2]

26.6.2.3.2

The fire department communications center shall be notified of the ~~potential~~ loss of connectivity between the protective premises and the supervising station after a period of one hour has occurred ..

Statement of Problem and Substantiation for Public Comment

The original proposed text is unenforceable. Unless the Great Carnack works at the supervising station, how are the personnel that are on duty going to know of a potential loss of connectivity? At any given moment there may be a loss, or not. If this paragraph is intended to mean during the process of the remote programming procedure, then it should be revised so as to state this. If there is to be a qualified technician at the site during the process then it is felt that such a notification is not required as if an event were to occur during the time that the system is off-line, the qualified technician could notify emergency forces.

Related Item

- FR 5220

Submitter Information Verification

Submitter Full Name: Shane Clary

Organization: Bay Alarm Company

Affiliation: Automatic Fire Alarm Association

Street Address:

City:

State:

Zip:

Submittal Date: Tue May 05 21:17:50 EDT 2020

Committee: SIG-SSS



Public Comment No. 221-NFPA 72-2020 [Section No. 26.6.2.3.2]

26.6.2.3.2 –

~~The fire department communications center shall be notified of the potential loss of connectivity between the protective premises and the supervising station.~~

Statement of Problem and Substantiation for Public Comment

If there is to be a qualified technician at the site during the process then such pre-notification is not required as if an event were to occur during the time that the system is off-line, the qualified technician could notify emergency forces. Notification if required, would have occurred in accordance with Chapter 14 as may be required by the AHJ when Inspection, Testing or Maintenance is to take place.

Related Item

- FR 5220

Submitter Information Verification

Submitter Full Name: Shane Clary
Organization: Bay Alarm Company
Affiliation: Automatic Fire Alarm Association
Street Address:
City:
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Submittal Date: Tue May 05 21:35:57 EDT 2020
Committee: SIG-SSS



Public Comment No. 264-NFPA 72-2020 [Sections 26.6.2.3.2, 26.6.2.3.3]

Sections 26.6.2.3.2, 26.6.2.3.3

26.6.2.3.2

The fire department communications center shall be notified of the ~~potential~~ loss of connectivity between the protective premises and the supervising station.

26.6.2.3.3

The supervising station shall be notified of the ~~potential~~ loss of connectivity between the protected premises and the supervising station.

Statement of Problem and Substantiation for Public Comment

As Chair of ESA's Codes and Standards Committee ESA has directed and approved this comment.

The word "potential" is ambiguous and creates a subjective standard for notification. Either a loss of connectivity occurred or it didn't. Creating a standard that calls for "potential" loss would subject responsible party to personal interpretation of "potential". In addition, notification should be delayed after a specified lapse in time. Notification on every momentary loss of connectivity would potentially overwhelm PSAP and supervising station.

Related Item

- FR 5220

Submitter Information Verification

Submitter Full Name: Rodger Reiswig
Organization: Johnson Controls
Street Address:
City:
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Submission Date: Wed May 06 14:35:47 EDT 2020
Committee: SIG-SSS



Public Comment No. 222-NFPA 72-2020 [Section No. 26.6.2.3.3]

26.6.2.3.3 –

~~The supervising station shall be notified of the potential loss of connectivity between the protected premises and the supervising station.~~

Statement of Problem and Substantiation for Public Comment

If the remote programming is occurring from within the same supervising station, then this notice should have already occurred within the station. The paragraph is rather vague as to how this notification is to be executed. Who is to provide this notification? This paragraph should be removed.

Related Item

- FR 5220

Submitter Information Verification

Submitter Full Name: Shane Clary
Organization: Bay Alarm Company
Affiliation: Automatic Fire Alarm Association
Street Address:
City:
State:
Zip:
Submittal Date: Tue May 05 21:43:12 EDT 2020
Committee: SIG-SSS



Public Comment No. 223-NFPA 72-2020 [Section No. 26.6.2.3.3]

26.6.2.3.3

The supervising station shall be notified of the potential loss of connectivity between the protected premises and the supervising station by the individual that is performing the remote programming .

Statement of Problem and Substantiation for Public Comment

The added text clarifies who is to notify the supervising station of a potential loss of communications prior to the execution of the remote programming encounter. This may be required if the signals are being monitored by a third party station and the remote programming is being orchestrated by a local alarm company.

Related Item

- FR 5220

Submitter Information Verification

Submitter Full Name: Shane Clary
Organization: Bay Alarm Company
Affiliation: Automatic Fire Alarm Association
Street Address:
City:
State:
Zip:
Submittal Date: Tue May 05 21:51:49 EDT 2020
Committee: SIG-SSS



Public Comment No. 327-NFPA 72-2020 [Section No. 26.6.4]

The Technical Committee should consider whether "communication" should be "communications" in two places.

26.6.4 Digital Communicator Systems.

26.6.4.1* Digital Alarm Communicator Transmitter (DACT) Used as a Signaling Interface.

26.6.4.1.1

The requirements of 26.6.4.2 shall not apply when a DACT is used as a signaling interface from a fire alarm control unit to another listed communication means.

26.6.4.1.2

The listed communication means shall meet the requirements of either 26.6.3 or 26.6.5.

26.6.4.2 DACT.

26.6.4.2.1* Managed Facilities-Based Voice Network.

A DACT shall be connected to a managed facilities-based voice network upstream of any private telephone system at the protected premises.

26.6.4.2.1.1

The connections to a managed facilities-based voice network shall be under the control of the subscriber for whom service is being provided by the supervising station alarm system.

26.6.4.2.1.2

Special attention shall be required to ensure that this connection is made only to a loop start telephone circuit and not to a ground start telephone circuit.

26.6.4.2.2 Signal Verification.

All information exchanged between the DACT at the protected premises and the digital alarm communicator receiver (DACR) at the supervising or subsidiary station shall comply with 26.6.4.2.2.1 and 26.6.4.2.2.2.

26.6.4.2.2.1

Information exchanged shall be by digital code or some other approved means.

26.6.4.2.2.2

Signal verification shall be by signal repetition, digital parity check, or other approved means.

26.6.4.2.3* Requirements for DACTs.

26.6.4.2.3.1

A DACT shall be configured so that, when it is required to transmit a signal to the supervising station, it shall seize the telephone line (going off-hook) at the protected premises and disconnect an outgoing or incoming telephone call and prevent use of the telephone line for outgoing telephone calls until signal transmission has been completed. A DACT shall not be connected to a party line telephone facility.

26.6.4.2.3.2

A DACT shall have the means to satisfactorily obtain a dial tone, dial the number(s) of the DACR, obtain verification that the DACR is able to receive signals, transmit the signal, and receive acknowledgment that the DACR has accepted that signal. In no event shall the time from going off-hook to on-hook exceed 90 seconds per attempt.

26.6.4.2.3.3*

A DACT shall have means to reset and retry if the first attempt to complete a signal transmission sequence is unsuccessful. A failure to complete connection shall not prevent subsequent attempts to transmit an alarm where such alarm is generated from any other initiating device circuit or signaling line circuit, or both. Additional attempts shall be made until the signal transmission sequence has been completed, up to a minimum of 5 and a maximum of 10 attempts.

26.6.4.2.3.4

If the maximum number of attempts to complete the sequence is reached, an indication of the failure shall be made at the premises.

26.6.4.2.4 Transmission Channels.**26.6.4.2.4.1**

A system employing a DACT shall employ a single telephone line (number) and one of the following transmission means:

- (1) One-way private radio alarm system
- (2) Two-way RF multiplex system
- (3) Transmission means complying with 26.6.3
- (4) A second telephone line (number), where all of the following are met:
 - (a) Access to one of the technologies in (1), (2), or (3) is not available at the protected premises.
 - (b) The authority having jurisdiction approves the arrangement.
 - (c) The DACT is programmed to call a second DACR line (number) when the signal transmission sequence to the first called line (number) is unsuccessful.
 - (d) The DACT is capable of selecting the operable means of transmission in the event of failure of the other means.
 - (e) Each telephone line is tested in accordance with 26.6.4.2.4.2 or at alternating 6-hour intervals.

26.6.4.2.4.2

The following requirements shall apply to all combinations listed in 26.6.4.2.4.1:

- (1) The means for supervising each channel shall be in a manner approved for the method of transmission employed.
- (2) If a signal has not been processed over the subject channel in the previous 6 hours, a test signal shall be processed.
- (3) The failure of either channel shall send a trouble signal on the other channel within 4 minutes.
- (4) When one transmission channel has failed, all status change signals shall be sent over the other channel.
- (5) The primary channel shall be capable of delivering an indication to the DACT that the message has been received by the supervising station.
- (6)* Unless the primary channel is known to have failed, the first attempt to send a status change signal shall use the primary channel.
- (7) Simultaneous transmission over both channels shall be permitted.
- (8) Failure of telephone lines (numbers) shall be annunciated locally.

26.6.4.2.5 DACT Transmission Means.

The following requirements shall apply to all DACTs:

- (1) A DACT shall be connected to two separate means of transmission at the protected premises so that a single point of failure on one means of transmission shall not affect the second means of transmission.
- (2) The DACT shall be capable of selecting the operable means of transmission in the event of failure of the other means.
- (3) The primary means of transmission shall be a telephone line (number) connected to a managed facilities-based voice network.
- (4)* The first transmission attempt shall utilize the primary means of transmission.
- (5) Each DACT shall be programmed to call a second receiver when the signal transmission sequence to the first called line (number) is unsuccessful.
- (6) Each transmission means shall automatically initiate and complete a test signal transmission sequence to its associated receiver at least once every 6 hours.
- (7) A successful signal transmission sequence of any other type, within the same 6-hour period, shall fulfill the requirement to verify the integrity of the reporting system, provided that signal processing is automated so that 6-hour delinquencies are individually acknowledged by supervising station personnel.
- (8)* If a DACT is programmed to call a telephone line (number) that is call forwarded to the line (number) of the DACR, a means shall be implemented to verify the integrity of the call forwarding feature every 4 hours.

26.6.4.3 Digital Alarm Communicator Receiver (DACR).**26.6.4.3.1 Equipment.****26.6.4.3.1.1**

Spare DACRs shall be provided in the supervising or subsidiary station.

26.6.4.3.1.2

Spare DACRs shall be online or able to be switched into the place of a failed unit within 30 seconds after detection of failure.

26.6.4.3.1.3

One spare DACR shall be permitted to serve as a backup for up to five DACRs in use.

26.6.4.3.1.4

The number of incoming telephone lines to a DACR shall be limited to eight lines, unless the signal-receiving, processing, display, and recording equipment at the supervising or subsidiary station is duplicated and a switchover is able to be accomplished in less than 30 seconds with no loss of signal during this period, in which case the number of incoming lines to the unit shall be permitted to be unlimited.

26.6.4.3.2 Transmission Channels.**26.6.4.3.2.1***

The DACR equipment at the supervising or subsidiary station shall be connected to a minimum of two separate incoming telephone lines (numbers).

26.6.4.3.2.2

The lines (numbers) shall have the following characteristics:

- (1) If the lines (numbers) are in a single hunt group, they shall be individually accessible; otherwise, separate hunt groups shall be required.
- (2) The lines (numbers) shall be used for no other purpose than receiving signals from a DACT.
- (3) The lines (numbers) shall be unlisted.

26.6.4.3.2.3

The failure of any telephone line (number) connected to a DACR due to loss of line voltage shall be annunciated visually and audibly in the supervising station.

26.6.4.3.2.4*

The loading capacity for a hunt group shall be capable of demonstrating a 90 percent probability of immediately answering an incoming call or be in accordance with Table 26.6.4.3.2.4 and the following:

- (1) Table 26.6.4.3.2.4 shall be based on an average distribution of calls and an average connected time of 30 seconds for a message.
- (2) The loading figures in Table 26.6.4.3.2.4 shall presume that the lines are in a hunt group (i.e., DACT is able to access any line not in use).
- (3) A single-line DACR shall not be allowed for any of the configurations shown in Table 26.6.4.3.2.4.

Table 26.6.4.3.2.4 Loading Capacities for Hunt Groups

<u>System Loading at the Supervising Station</u>	<u>Number of Lines in Hunt Group</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5-8</u>
With DACR lines processed in parallel					
Number of initiating circuits	NA	5,000	10,000	20,000	20,000
Number of DACTs	NA	500	1,500	3,000	3,000
With DACR lines processed serially (put on hold, then answered one at a time)					
Number of initiating circuits	NA	3,000	5,000	6,000	6,000
Number of DACTs	NA	300	800	1,000	1,000

NA: Not allowed.

26.6.4.3.2.5

Each supervised burglar alarm (open/close) or each suppressed guard's tour transmitter shall reduce the allowable DACTs as follows:

- (1) Up to a four-line hunt group, by 10
- (2) Up to a five-line hunt group, by 7
- (3) Up to a six-line hunt group, by 6
- (4) Up to a seven-line hunt group, by 5
- (5) Up to an eight-line hunt group, by 4

26.6.4.3.2.6

Each guard's tour transmitter shall reduce the allowable DACTs as follows:

- (1) Up to a four-line hunt group, by 30
- (2) Up to a five-line hunt group, by 21
- (3) Up to a six-line hunt group, by 18
- (4) Up to a seven-line hunt group, by 15
- (5) Up to an eight-line hunt group, by 12

26.6.4.3.2.7

A signal shall be received on each individual incoming DACR line at least once every 6 hours.

26.6.4.3.2.8

The failure to receive a test signal from the protected premises shall be treated as a trouble signal.

Additional Proposed Changes

<u>File Name</u>	<u>Description Approved</u>
CorrelatingNoteNo._26.pdf	

Statement of Problem and Substantiation for Public Comment

NOTE: This Public Comment appeared as Correlating Committee Note 26 in the First Draft Report, on First Revision No. 5245.

The Technical Committee should consider whether "communication" should be "communications" in two places.

Related Item

• CN No. 26 • FR No. 5245

Submitter Information Verification

Submitter Full Name: CC on SIG-AAC

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Submittal Date: Thu May 07 09:58:56 EDT 2020

Committee: SIG-SSS



Public Comment No. 135-NFPA 72-2020 [Section No. 26.6.4.2]

26.6.4.2 DACT.

26.6.4.2.1 * ~~Managed~~ 1 Unless otherwise permitted by 26.6.4.1.1 the requirements of 26.4.2 shall apply to DACT.

26.6.4.2.2 Managed Facilities-Based Voice Network.

A DACT shall be connected to a managed facilities-based voice network upstream of any private telephone system at the protected premises.

26.6.4.2.1 2 .1

The connections to a managed facilities-based voice network shall be under the control of the subscriber for whom service is being provided by the supervising station alarm system.

26.6.4.2.1 2 .2

Special attention shall be required to ensure that this connection is made only to a loop start telephone circuit and not to a ground start telephone circuit.

26.6.4.2.2 3 Signal Verification.

All information exchanged between the DACT at the protected premises and the digital alarm communicator receiver (DACR) at the supervising or subsidiary station shall comply with 26.6.4.2.2.1 and 26.6.4.2.2.2.

26.6.4.2.2 3 .1

Information exchanged shall be by digital code or some other approved means.

26.6.4.2.2 3 .2

Signal verification shall be by signal repetition, digital parity check, or other approved means.

26.6.4.2.3 4 * Requirements for DACTs.

26.6.4.2.3 4 .1

A DACT shall be configured so that, when it is required to transmit a signal to the supervising station, it shall seize the telephone line (going off-hook) at the protected premises and disconnect an outgoing or incoming telephone call and prevent use of the telephone line for outgoing telephone calls until signal transmission has been completed. A DACT shall not be connected to a party line telephone facility.

26.6.4.2.3 4 .2

A DACT shall have the means to satisfactorily obtain a dial tone, dial the number(s) of the DACR, obtain verification that the DACR is able to receive signals, transmit the signal, and receive acknowledgment that the DACR has accepted that signal. In no event shall the time from going off-hook to on-hook exceed 90 seconds per attempt.

26.6.4.2.3 4 .3*

A DACT shall have means to reset and retry if the first attempt to complete a signal transmission sequence is unsuccessful. A failure to complete connection shall not prevent subsequent attempts to transmit an alarm where such alarm is generated from any other initiating device circuit or signaling line circuit, or both. Additional attempts shall be made until the signal transmission sequence has been completed, up to a minimum of 5 and a maximum of 10 attempts.

26.6.4.2.3 4 .4

If the maximum number of attempts to complete the sequence is reached, an indication of the failure shall be made at the premises.

26.6.4.2.4 5 Transmission Channels.

26.6.4.2.4 5.1

A system employing a DACT shall employ a single telephone line (number) and one of the following transmission means:

- (1) One-way private radio alarm system
- (2) Two-way RF multiplex system
- (3) Transmission means complying with 26.6.3
- (4) A second telephone line (number), where all of the following are met:
 - (a) Access to one of the technologies in (1), (2), or (3) is not available at the protected premises.
 - (b) The authority having jurisdiction approves the arrangement.
 - (c) The DACT is programmed to call a second DACR line (number) when the signal transmission sequence to the first called line (number) is unsuccessful.
 - (d) The DACT is capable of selecting the operable means of transmission in the event of failure of the other means.
 - (e) Each telephone line is tested in accordance with 26.6.4.2.4.2 or at alternating 6-hour intervals.

26.6.4.2.4 5.2

The following requirements shall apply to all combinations listed in 26.6.4.2.4.1:

- (1) The means for supervising each channel shall be in a manner approved for the method of transmission employed.
- (2) If a signal has not been processed over the subject channel in the previous 6 hours, a test signal shall be processed.
- (3) The failure of either channel shall send a trouble signal on the other channel within 4 minutes.
- (4) When one transmission channel has failed, all status change signals shall be sent over the other channel.
- (5) The primary channel shall be capable of delivering an indication to the DACT that the message has been received by the supervising station.
- (6)* Unless the primary channel is known to have failed, the first attempt to send a status change signal shall use the primary channel.
- (7) Simultaneous transmission over both channels shall be permitted.
- (8) Failure of telephone lines (numbers) shall be annunciated locally.

26.6.4.2.5 6 DACT Transmission Means.

The following requirements shall apply to all DACTs:

- (1) A DACT shall be connected to two separate means of transmission at the protected premises so that a single point of failure on one means of transmission shall not affect the second means of transmission.
- (2) The DACT shall be capable of selecting the operable means of transmission in the event of failure of the other means.
- (3) The primary means of transmission shall be a telephone line (number) connected to a managed facilities-based voice network.
- (4)* The first transmission attempt shall utilize the primary means of transmission.
- (5) Each DACT shall be programmed to call a second receiver when the signal transmission sequence to the first called line (number) is unsuccessful.
- (6) Each transmission means shall automatically initiate and complete a test signal transmission sequence to its associated receiver at least once every 6 hours.
- (7) A successful signal transmission sequence of any other type, within the same 6-hour period, shall fulfill the requirement to verify the integrity of the reporting system, provided that signal processing is automated so that 6-hour delinquencies are individually acknowledged by supervising station personnel.
- (8)* If a DACT is programmed to call a telephone line (number) that is call forwarded to the line (number) of the DACR, a means shall be implemented to verify the integrity of the call forwarding feature every 4 hours.

Statement of Problem and Substantiation for Public Comment

Eliminates a conflict with 26.6.4.2.1.

Related Item

- PI 147

Submitter Information Verification

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Submittal Date: Tue Apr 28 14:28:39 EDT 2020

Committee: SIG-SSS



Public Comment No. 189-NFPA 72-2020 [Section No. A.26.6.1]

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A.26.6.1

Refer to Table A.26.6.1 for communications methods.

Table A.26.6.1 Communications Methods for Supervising Stations

<u>Criteria</u>	<u>Performance-Based Technologies 26.6.3</u>	<u>Digital Alarm Communicator Systems 26.6.4</u>	<u>Two-Way Radio Frequency (RF) Multiplex Systems 26.6.5.1</u>	<u>One-Way Private Radio Alarm Systems 26.6.5.2</u>
Federal Communications Commission (FCC) approval when applicable	Yes	Yes	Yes	Yes
Conform to <i>NFPA 70</i>	Yes	Yes	Yes	Yes
Monitoring for integrity of the transmission and communications channel	Monitor for integrity	Both the premises unit and the system unit monitor for integrity in a manner approved for the means of transmission employed. A single signal received on each incoming DACR line once every 6 hours.	Systems are periodically polled for end-to-end communications integrity.	Test signal from every transmitter once every 24 hours
Annunciate, at the supervising station, the degradation and restoration of the transmission or communications channel	Within 60 minutes for a single communication path and within 6 hours for multiple communication paths	Within 4 minutes using alternate phone line to report the trouble	Not exceed 90 seconds from the time of the actual failure	Only monitor the quality of signal received and indicate if the signal falls below minimum signal quality specified in Code
Redundant communication path where a portion of the transmission or communications channel cannot be monitored for integrity			Employ a combination of two separate transmission channels alternately tested at intervals not exceeding 6 hours	Redundant path not required — supervising station always indicates a communications failure Minimum of two independent RF paths must be simultaneously employed
Interval testing of the backup path(s)			When two phone lines are used, test alternately every 6 hours. Testing for other back-up technologies, see 26.6.4.1.4(B).	Backup path not required No requirement, because the quality of the signal is continuously monitored
Annunciation of communication failure or ability to communicate at the protected premises	Systems where the transmitter at the local premises unit detects a communication failure, the	Indication of failure at premises due to line failure or failure to communicate after from 5 to 10	Not required — always annunciated at the supervising station that initiates corrective action	Monitor the interconnection of the premises unit elements of transmitting equipment, and indicate a failure

Criteria	<u>Performance-Based Technologies 26.6.3</u>	<u>Digital Alarm Communicator Systems 26.6.4</u>	<u>Two-Way Radio Frequency (RF) Multiplex Systems 26.6.5.1</u>	<u>One-Way Private Radio Alarm Systems 26.6.5.2</u>
	premises unit will annunciate the failure within 200 seconds of the failure	dialing attempts		at the premises or transmit a trouble signal to the supervising station.
Time to restore signal-receiving, processing, display, and recording equipment	Where duplicate equipment not provided, spare hardware required so a repair can be effected within 30 minutes.	Spare digital alarm communicator receivers required for switchover to backup receiver in 30 seconds. One backup system unit for every five system units.	Where duplicate equipment not provided, spare hardware required so a repair can be effected within 30 minutes	Where duplicate equipment not provided, spare hardware required so a repair can be effected within 30 minutes
Loading capacities for system units and transmission and communications channels	512 independent alarm systems on a system unit with no backup. Unlimited if you can switch to a backup in 30 seconds.	See Table 26.6.4.2.2(D) for the maximum number of transmitters on a hunt group in a system unit	512 buildings and premises on a system unit with no backup. Unlimited if you can switch to a backup in 30 seconds.	512 buildings and premises on a system unit with no backup. Unlimited if you can switch to a backup in 30 seconds.
End-to-end communication time for an alarm	90 seconds from initiation of alarm until displayed to the operator and recorded on a medium from which the information can be retrieved	Off-hook to on-hook not to exceed 90 seconds per attempt. 10 attempts maximum. 900 seconds maximum for all attempts.	90 seconds from initiation until it is recorded	90% probability to receive an alarm in 90 seconds, 99% probability in 180 seconds, 99.999% probability in 450 seconds
Record and display rate of subsequent alarms at supervising station	Not slower than one every 10 additional seconds	Not addressed	When any number of subsequent alarms come in, record at a rate not slower than one every additional 10 seconds	When any number of subsequent alarms come in, record at a rate not slower than one every additional 10 seconds
Signal error detection and correction	Signal repetition, parity check, or some equivalent means of error detection and correction must be used.	Signal repetition, digital parity check, or some equivalent means of signal verification must be used.	Not addressed	Not addressed
Path sequence priority	No need for prioritization of paths. The requirement is that both paths are equivalent.	The first transmission attempt uses the primary channel.	Not addressed	Not addressed

Criteria	<u>Performance-Based Technologies 26.6.3</u>	<u>Digital Alarm Communicator Systems 26.6.4</u>	<u>Two-Way Radio Frequency (RF) Multiplex Systems 26.6.5.1</u>	<u>One-Way Private Radio Alarm Systems 26.6.5.2</u>	
Carrier diversity			Where long distance service (including WATS) is used, the second telephone number must be provided by a different long distance service provider where there are multiple providers.	Not addressed	Not addressed
Throughput probability			Demonstrate 90% probability of a system unit immediately answering a call or follow the loading in Table 26.6.4.2.2(D). One-way radio backup demonstrates 90% probability of transmission.	Not addressed	90% probability to receive an alarm in 90 seconds, 99% probability in 180 seconds, 99.999% in probability 450 seconds
Unique premises identifier	If a transmitter shares a transmission or communication channel with other transmitters, it must have a unique transmitter identifier.	Yes	Yes	Yes	
Unique flaws	From time to time, unique flaws might be present in a communication system. Requirements must be written for unique flaws.	If call forwarding is used to communicate to the supervising station, verify the integrity of this feature every 4 hours.	None addressed	None addressed	
Signal priority Signal priority should not be required for shared communications technologies.	<u>If the communication methodology is shared with any other usage, consideration should be given to the need for alarm signals to be prioritized.</u>	Chapter 10 on fundamentals requires that alarm signals take priority over supervisory signals unless there is sufficient repetition of the alarm signal to prevent the loss of an alarm signal.	Chapter 10 on fundamentals requires that alarm signals take priority over supervisory signals unless there is sufficient repetition of the alarm signal to prevent the loss of an alarm signal.	Chapter 10 on fundamentals requires that alarm signals take priority over supervisory signals unless there is sufficient repetition of the alarm signal to prevent the loss of an alarm signal.	

Criteria	<u>Performance-Based Technologies</u> 26.6.3	<u>Digital Alarm Communicator Systems</u> 26.6.4	<u>Two-Way Radio Frequency (RF) Multiplex Systems</u> 26.6.5.1	<u>One-Way Private Radio Alarm Systems</u> 26.6.5.2
Sharing communications equipment on premises	If the transmitter is sharing on-premises communications equipment, the shared equipment must be listed for the purpose (otherwise the transmitter must be installed ahead of the unlisted equipment).	Disconnect outgoing or incoming telephone call and prevent its use for outgoing telephone calls until signal transmission has been completed.	Not addressed	Not addressed

Statement of Problem and Substantiation for Public Comment

Reword or return Signal Priority for performance based option to previous language. Removal of prioritization of emergency signals over non-emergency traffic for shared system was not justified with any technical data other than the TC "recognizes that digital communications are fast enough". Consider a system that uses a building network. During a crisis, network traffic increases significantly as people attempt to gather information and communicate with the outside world.

Related Item

- First Revision No. 5252-NFPA 72-2019 [Section No. A.26.6.1]

Submitter Information Verification

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