
BURGLAR & FIRE ALARM
ESTABLISHED 1981
ASSOCIATION OF MICHIGAN
APPRENTICESHIP PROGRAM

BURGLAR & FIRE ALARM ASSOCIATION OF MICHIGAN ESTABLISHED 1981

APPRENTICESHIP PROGRAM

Period 2
Related Training Instruction (RTI)
Module 5 – NFPA 72 Supervising Station Alarm Systems

Reading material associated with this module:
Chapter 26
NFPA 72, National Fire Alarm Code, 2022 Edition

BURGLAR & FIRE ALARM ASSOCIATION OF MICHIGAN ESTABLISHED 1981

APPRENTICESHIP PROGRAM

NFPA 72
National Fire Alarm Code
2022 Edition
Chapter 26 – Supervising Station Alarm Systems

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- Introduction:
  - Chapter 26 addresses the requirements for three supervising station services;
    - Central Station (Section 26.3).
    - Proprietary Station (Section 26.4).
    - Remote Station (Section 26.5).
  - Chapter 26 also addresses the requirements for three types of signal transmission:
    - Performance-based Technologies. (Section 26.6.3).
    - Digital Alarm Communicator System (DACS) (Section 26.6.4).
    - Radio Systems (Section 26.6.5).

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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 supervising station system shall comply with this chapter.
  - Where any system regulated by this code sends signals to a supervising station, the entire system becomes a supervising station alarm system.
  - The requirements of this chapter shall not apply to Chapter 29, Household Signaling Systems unless otherwise noted.

26.1, 26.1.1, 26.1.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - All fire alarm signals received by a supervising station shall be immediately retransmitted to the communication center, unless the signal originates from a jurisdiction where alarm verification in accordance with section 26.6.2 or 29.10.9.7 is required.
  - *The term "immediately" is intended to mean "without unreasonable delay". Routine handling should take a maximum of 90 seconds from receipt of an alarm signal.*
  - *3.3.60 Communications Center: A building or portion of a building specifically configured for the purpose of providing emergency communication services or public safety answering point (PSAP) services to one or more public safety agencies under the authority or authorities having jurisdiction.*
  - *This center could be a main fire department station or public safety complex. It also may include the PSAP for the community's 9-1-1 emergency telephone system.*

26.2.1.2, A26.2.1.2, 3.3.60

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Fire alarm signals received at the supervising station shall be retransmitted to the communications center as follows:
    - Signals identified by zone shall be retransmitted by zone.
    - Signals identified as an individual point or points shall be retransmitted as an individual point or points.
    - Signals identified as events shall be retransmitted as events.
  - The supervising station shall continue to retransmit subsequent signals from a protected premises to the communications center until advised otherwise by the communications center.
  - Subsequent signals that are suppressed by the supervising station as directed by the communications center shall be permitted to be suppressed for a maximum of 1 hour.

26.2.1.3, 26.2.1.4.1, 26.2.1.4.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Supervising station personnel shall attempt to verify alarm signals prior to reporting them to the communications center **ONLY** where all of the following conditions exist:
    - Alarm signal verification is required by the responsible fire department for a specific protected premises.
    - Documentation of the requirements for alarm signal verification is provided by responsible FD to the supervising station and protected premises.
    - If the requirement changes, the responsible FD notifies the supervising station and protected premises.
    - The verification process does not take longer than 90 seconds from the time the alarm signal is received at the supervising station until retransmission of the verified alarm signal is initiated.

26.2.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Supervising station personnel shall attempt to verify alarm signals prior to reporting them to the communications center **ONLY** where all of the following conditions exist:
    - 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.
    - 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.
    - Alarm signals where verification is not conclusive are immediately retransmitted to the communications center.
    - Alarm signals that are verified as unwanted alarms shall be reported to the responsible FD in a manner and frequency required by the responsible FD.

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - 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.
  - Carbon monoxide alarm signals shall take precedence over supervisory or trouble signals.
  - The actuation of a CO detector or system shall be distinctively indicated as a CO alarm signal.
  - 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 CO alarm signal.

26.2.3, 26.2.4.1.1, 26.2.4.1.2, 26.2.4.1.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Upon receipt of a CO alarm signal, supervising station personnel shall perform the following actions in the order listed:
    - Where required by the emergency response agency, immediately retransmit indication of the CO alarm signal to the communications center.
    - Contact the responsible party(s) in accordance with the notification plan.

26.2.4.1.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Upon receipt of a CO alarm signal, supervising station personnel shall perform the following actions in the order listed:
    - Once contacted, inform the subscriber to take one of the actions in (a) or (b):
      - (a) If the subscriber has an emergency response plan, implement the plan.
      - (b) If no emergency response plan exists:
        - Immediately move to fresh air, either outdoors or by an open door or window.
        - Verify that all occupants are accounted for.
        - 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.

26.2.4.1.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Upon receipt of a CO trouble signal, the responsible party(s) shall be notified.
  - Servicing of a system CO trouble shall be in accordance with chapter 14 and shall occur within 4 hours of the trouble indication.
  - CO end-of-life signals shall be treated as trouble signals.
  - 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.
  - Any signal received by the supervising station that has not been restored to normal within 24 hours of initial receipt shall be redisplayed to an operator as a non-restored signal and shall be reported to the subscriber. This requirement shall not apply to signals received as a result of a scheduled impairment.

26.2.4.2.1, 26.2.4.2.2, 26.2.4.2.3, 26.2.5.1, 26.2.5.2, 26.2.5.2.1

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.2 General:
  - Supervising station customers and the authority having jurisdiction shall be notified in writing by the new supervising station within 30 calendar days of any change that results in their signals being monitored by a different supervising station facility.
  - *This could be through such actions as an acquisition of accounts or a corporate reorganization*.
  - When a change of service occurs, all zones, points and signals from each affected property shall be tested at or prior to the next scheduled periodic test. The testing shall be performed either by the supervising station if they are responsible for providing the required testing or the supervising station shall notify the alarm system owner of the need to have the testing performed by their prime contractor.
  - The supervising station shall notify the AHJ prior to terminating service.

26.2.7.1, 26.2.7.2, 26.2.7.326.2.7.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - Alarm systems for central station service shall include the central station physical plant, exterior communications channels, subsidiary stations, and alarm signaling equipment at the protected premises.
  - The six service elements of central station service include:
    - Installation of alarm transmitters.
    - Alarm, guard, supervisory, and trouble signal monitoring.
    - Retransmission.
    - Associated record keeping and reporting.
    - Testing and maintenance.
    - Runner service.

26.3.1, 26.3.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - *3.3.217 Prime Contractor*:
    - *The listed central station or listed alarm service local company that is contractually responsible for providing central station services to a subscriber as required by this code.*
  - The central station service requirements shall be provided under contract to a subscriber by a prime contractor that has a listing for central station fire alarm services.
  - The prime contractor shall be responsible for code-compliant service delivery, regardless of any subcontracting arrangements involved in the delivery of service.
  - 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.

3.3.217, 26.3.3, 26.3.3.1, 26.3.3.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - The prime contractor shall conspicuously indicate that the alarm system providing service at the 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.
  - Documentation indicating code compliance of the alarm system shall be issued by the organization that has listed the prime contractor.
  - The documentation shall be physically posted within 3' of the control unit, and copies of the documentation shall be made available to the AHJ upon request.
  - The organization that has listed the prime contractor shall maintain a central repository of issued documentation accessible to the AHJ.
  - Alarm system service that does not comply with all of the requirements for central station service, shall not be designated as central station service.

26.3.4, 26.3.4.1, 26.3.4.3, 26.3.4.4, 26.3.4.5

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - The AHJ shall be notified within 30 calendar days of the expiration or cancellation by the organization that has listed the prime contractor.
  - The subscriber shall surrender expired or cancelled documentation to the prime contractor within 30 days of the termination date.

26.3.4.7, 26.3.4.8

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - The central station building or portion of the building occupied by a central station facility 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*.
  - The above requirements shall also apply to subsidiary station buildings or portions of buildings occupied by subsidiary stations.
  - Subsidiary stations shall be:
    - Monitored for intrusion, fire, power, and environmental systems.
    - Inspected monthly.
    - Backup for failed equipment or the communications channel shall be operational within 90 seconds and restoration of the failed unit within 5 days.

26.3.5.1, 26.3.5.2, 26.3.5.2.1, 26.3.5.2.2, 26.3.5.2.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - Computer-aided alarm and supervisory signal-processing hardware and software shall be listed for the purpose.
  - Power supplies shall comply with the requirements of chapter 10.
  - Two independent means shall be provided to retransmit an alarm signal to the designated communications center.
  - The central station shall have not less than two qualified operators on duty at the central station at all times.
  - Operation and supervision shall be the prime function of the operators, and no other interest or activity shall take precedence over the protective service.

26.3.6.3, 26.3.6.4, 26.3.6.6, 26.3.7.1, 26.3.7.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - The central station shall perform the following actions upon receipt of an alarm signal that is not prearranged:
    - Retransmit the alarm to the communications center.
    - Dispatch a runner or technician to arrive within 2 hours after receipt of alarm signal if equipment needs to be manually reset by the prime contractor. Except where prohibited by the AHJ, the runner or technician may be recalled if a qualified representative of the subscriber can provide the resetting of the equipment and place the system back in operation.
    - Immediately notify the subscriber unless the signal is part of a prearranged test.
    - Provide notice to the subscriber or AHJ, or both, if required.

26.3.8.3.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - The central station shall perform the following actions upon receipt of a supervisory signal that is not prearranged:
    - Communicate immediately with the persons designated by the subscriber and notify the fire department, law enforcement agency, or both, when required by the AHJ.
    - Dispatch a runner or maintenance person to arrive within 2 hours to investigate unless the supervisory signal is cleared by communication with the subscriber, fire department, or law enforcement.
    - Notify the AHJ and the subscriber when sprinkler systems or other fire suppression systems or equipment have been wholly or partially out of service for 8 hours.
    - When service is restored, provide notice to the subscriber and the AHJ of the nature of the signal, time of occurrence, and restoration of service, when out of service for 8 hours or more. 26.3.8.3.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - The central station shall perform the following actions upon receipt of a trouble signal:
    - If the received signal does not restore within 15 minutes, communicate immediately with the persons designated by the subscriber.
    - Dispatch personnel to arrive within 4 hours to initiate maintenance, if necessary.
    - When the interruption is more than 8 hours, provide notice to the subscriber and the fire department if required by the AHJ as to the nature of the interruption, the time of occurrence, and the restoration of service.

26.3.8.3.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - All test signals received shall be recorded to indicate date, time, and type.
  - Test signals initiated by the subscriber, including those for the benefit of the AHJ, shall be acknowledged by central station personnel whenever the subscriber or authority inquires.
  - Any test signal not received by the central station shall be investigated immediately, and action taken to reestablish system integrity.
  - The prime contractor shall provide each of its representatives and each alarm system user with a unique personal identification code (PIC).
  - The PIC must be provided to the central station in order to authorize the placing of an alarm system into test status.

26.3.8.3.5.1, 26.3.8.3.5.2, 26.3.8.3.5.3, 26.3.8.3.5.5, 26.3.8.3.5.6

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Chapter 26 – Supervising Station Alarm Systems:

- 26.3 Central Station Service Alarm Systems:
  - Complete records of all signals shall be retained for at least 1 year.
  - Testing and maintenance for central station service shall be performed in accordance with chapter 14.

26.3.9.1, 26.3.10

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - Proprietary supervising stations shall be operated by trained, competent personnel in constant attendance who are responsible to the owner of the protected property.
  - The protected property shall be under one ownership and may be contiguous or noncontiguous.
  - If a protected premises control unit is integral to or located with the supervising station equipment, the signal transmission requirements of section 26.6 shall not apply.
  - The proprietary supervising station shall be located in either a fire-resistive detached building, or a fire-resistive room protected from the hazardous parts of the building.
  - Access shall be restricted to those persons directed concerned with the implementation and direction of emergency action and procedures.

26.4.2.1, 26.4.2.2, 26.4.2.3, 26.4.3.1, 26.4.3.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - The proprietary supervising station and remotely located power rooms for batteries or engine-driven generators shall be provided with portable fire extinguishers in accordance with NFPA 10, *Standard for Portable Fire Extinguishers*.
  - The proprietary supervising station shall be provided with an automatic emergency lighting system with an emergency source independent of the primary lighting source, a capacity of a minimum of 26 hours of operation and shall be tested in accordance with chapter 14.
  - If 25 or more buildings or premises are connected to a subsidiary station, both of the following shall be provided at the subsidiary station:
    - Automatic means for receiving and recording signals.
    - A telephone.

26.4.3.3, 26.4.3.4.1, 26.4.3.4.2, 26.4.3.4.3, 26.4.3.5

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - Signal-receiving equipment in a proprietary supervising station shall identify the building where the signal originates.
  - The floor, section or other subdivision where the signal originated shall be identified at the proprietary supervising station or the building that is protected where required by the AHJ.
  - The proprietary supervising station shall have, in additional to a recording device, two different means of alerting the operator when each signal is received that indicates a change of state of any connected initiating device circuit, one of which is an audible signal which shall persist until manually acknowledged.
  - The means of alerting the operator shall indicate the receipt of alarm, supervisory, and trouble signals, including signals indicating restoration.

26.4.4.1.2, 26.4.4.1.3, 26.4.4.2.1, 26.4.4.2.1.1, 26.4.4.2.1.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - 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.
  - All signals received by the proprietary supervising station that show a change in status shall be automatically and permanently recorded, including time and date.
  - The proprietary supervising station shall be staffed at all times by a minimum of two qualified operators, one of which shall be permitted to be a runner.
  - Where the means for transmission of alarms to the communications center is automatic, only one operator is required.
  - When a runner is not in attendance at the proprietary supervising station, the runner shall establish two-way communications with the station every 15 minutes or less.

26.4.4.2.1.3, 26.4.4.2.2, 26.4.5.1, 26.4.5.2, 26.4.5.3, 26.4.5.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - All communications and transmission channels to the protected premises shall be operated manually or automatically once every 24 hours to verify operation.
  - If a communications and transmission channel fails to operate the operator shall immediately notify the person(s) identified by the owner or AHJ.
  - Retransmission by coded signals to the communications center shall be confirmed by two-way voice communication indicating the nature of the alarm.
  - Operator controls at the proprietary supervising station shall be operated (tested) at each change of shift.

26.4.6.1.3.1, 26.4.6.1.3.2, 26.4.6.1.3.3, 26.4.6.1.4.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - The proprietary supervising station shall perform the following actions upon receipt of an alarm signal:
    - Notify the communications center, the emergency response team, and such other parties as the AHJ requires.
    - Dispatch a runner or technician to the alarm location to arrive within 2 hours after receipt of a signal.
    - Restore the system as soon as possible after disposition of the cause of the alarm signal.

26.4.6.1.6.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - The proprietary supervising station shall perform the following actions upon receipt of a supervisory signal, if required:
    - Communicate immediately with the designated person(s) to determine the reason for the signal.
    - Dispatch personnel to arrive within 2 hours to investigate unless the supervisory conditions are immediately restored.
    - Notify the fire department if required by the AHJ.
    - Notify the AHJ when sprinkler systems are wholly or partially out of service for 8 hours or more.
    - Provide written notice to the AHJ of the nature of the signal, time of occurrence and restoration of service, when out of service for 8 hours or more.

26.4.6.1.6.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.4 Proprietary Supervising Station Alarm Systems:
  - The proprietary supervising station shall perform the following actions, if required, upon receipt of trouble signal(s) or other signals pertaining solely to matters of equipment maintenance:
    - Communicate immediately with the designated person(s) to ascertain reason for the signal.
    - Dispatch personnel to arrive within 4 hours to initiate maintenance, if necessary.
    - Notify the fire department, if required by the AHJ.
    - Notify the AHJ when interruption of service exists for 4 hours or more.
    - When equipment has been out of service for 8 hours or more, provide written notice to the AHJ as to the nature of the signal, time of occurrence, and restoration of service.

26.4.6.1.6.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - Remote station service applies where central station service is neither required nor elected.
  - Remote station service applies to the installation, maintenance, testing and use of alarm systems that serve properties under various ownership from a remote supervising station.
  - Owners utilizing remote station alarm systems shall provide annual documentation to the AHJ identifying the party responsible for the inspection, testing, and maintenance requirements of chapter 14.

26.5.1.1, 26.5.1.2, 26.5.2.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - Alarm, supervisory, and trouble signals shall be permitted to be received at the following locations:
    - A communications center that complies with NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*.
    - A fire station or governmental agency.
    - A listed central supervising station, if permitted by the AHJ.
    - An alternate location approved by the AHJ.

26.5.3.1.1, 26.5.3.1.2, 26.5.3.1.3, 26.5.3.1.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - 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.
  - Trouble signals shall be permitted to be received at locations other than that which receives alarm and supervisory signals.

26.5.3.2.1, 26.5.3.2.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - If not monitored at the communications center, retransmission of an alarm signal shall be by one of the following methods, which appear in descending order of preference as follows:
    - A dedicated circuit that is independent of any switched telephone network and is capable of voice or data communications.
    - 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.
    - A private radio system using the fire department frequency, where permitted by the fire department.
    - Other methods approved by the AHJ.

26.5.4.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - The remote supervising station shall have not less than two qualified operators on duty at all times.
  - Duties pertaining to other than operation of the remote supervising station receiving and transmitting equipment shall be permitted, subject to approval by the AHJ.
  - If the remote station is other than the communications center, alarm signals shall be:
    - Immediately retransmitted to the communications center.
    - The owner or owner's designated representative shall be immediately notified.

26.5.5.1, 26.5.5.2, 26.5.6.3.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - Upon receipt of a supervisory or trouble signal that is not prearranged, the remote station shall perform the following actions:
    - The owner or owner's designated representative shall be immediately notified.
    - Where required, notify the AHJ.
  - For trouble signals, the remote station operator shall be permitted to delay transmission for 15 minutes to allow for a status change that would resolve the trouble.
  - If a trouble restoral is received within 15 minutes, the operator shall not be required to notify the owner / owner's representative or AHJ.

26.5.6.3.2, 26.5.6.3.1.1, 26.5.6.3.3.2, 26.5.6.3.3.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.5 Remote Supervising Station Alarm Systems:
  - All operator controls 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.
  - A permanent record of the time, date, and location of all signals and restoration received and the actions taken shall be maintained for at least 1 year and shall be able to be provided to the AHJ.
  - Records shall be permitted to be created by manual means.

26.5.7, 26.5.8.1, 26.5.8.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - This section addresses the three methods of communicating to supervising stations:
    - Performance-based technologies (aka “other technologies”), which include IP and GSM communicators, as well as older legacy technologies that are no longer being installed.
    - Digital alarm communicator systems (DACS) which includes the DACT at the protected premises, and the DACR at the supervising station.
    - Radio systems, which are divided into two types:
      - Two-way radio frequency (RF) multiplex systems.
      - One-way private radio alarm systems.

26.6

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Section 26.6 applies to the following:
    - Transmitter located at the protected premises.
    - Transmission channel between the protected premises and the supervising station or subsidiary station.
    - If used, any subsidiary station and its communication channel.
    - Signal receiving, processing, display, and recording equipment at the supervising station.
  - The minimum signaling requirement shall be alarm signal, supervisory signal, and trouble signal, where used.

26.6.6.1.1, 26.6.1.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Remote programming of protected premises transmission technologies (performance-based, DACS, and radio) shall be permitted as follows:
    - A qualified person meeting the requirements for testing, service, or programming personnel shall be at the protected premises at all times during the remote programming.
    - Before remote programming occurs, all persons and facilities receiving alarm, supervisory, and trouble signals, and all building occupants shall be notified.
    - A test plan detailing the scope of testing shall be developed.
    - A mitigation plan shall be initiated by the responsible party for the alarm system to assign an individual charged with contacting the communications center in the event an actual alarm occurs during the remote programming.

26.6.2.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Remote programming of protected premises transmission technologies (performance-based, DACS, and radio) shall be permitted as follows (continued):
    - 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 transmission technology is changed.
    - 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 transmission technology is changed.

26.6.2.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Remote programming of protected premises transmission technologies (performance-based, DACS, and radio) shall be permitted as follows (continued):
    - 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.
    - At the conclusion of testing, those previously notified (and others, as necessary) shall be notified that testing has been concluded.

26.6.2.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Alarm system equipment and installation shall comply with FCC rules and regulations as applicable.
  - Equipment shall be installed in compliance with NFPA 70 (NEC).
  - The external antennas of all radio transmitting and receiving equipment shall be protected to minimize the possibility of damage by static discharge or lightning.

26.6.2.4.1, 26.6.2.4.2, 26.6.2.4.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - Communications methods operating on different principles 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 the applicable requirements of this code.
    - Provisions shall be made to monitor the integrity of the transmission technology and its communication path.
    - An inventory of spare equipment shall be maintained at the supervising station such that any piece of failed equipment can be replaced and the system restored to full operation within 30 minutes of failure.

26.6.3.1, 26.6.3.2, 26.6.3.6

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - Unless prohibited by the AHJ, governing laws, codes, or standards, where a single communications path is used, the following requirements apply:
      - The path shall be supervised at an interval of not more than 60 minutes.
      - A failure of the path shall be annunciated at the supervising station within not more than 60 minutes.
      - The failure to complete a signal transmission shall be annunciated at the protected premises in accordance with the trouble signal requirements of section 10.15.

26.6.3.3

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - If multiple transmission paths are used, the following requirements apply:
      - Each path shall be supervised within not more than 6 hours.
      - The failure of any path of a multipath system shall be annunciated at the supervising station within not more than 6 hours.
      - Multiple communications paths shall be arranged so that a single point of failure shall not cause more than a single path to fail.
      - The failure to complete a signal transmission shall be annunciated at the protected premises in accordance with the trouble signal requirements of section 10.15.
    - A single technology shall be permitted to be used to create the multiple paths of communication provided that all the requirements above are met.

26.6.3.4, 26.6.3.5

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - The maximum number of independent fire alarm systems connected to a single system unit shall be 512.
    - 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.
    - The maximum duration between initiation of an alarm signal at the protected premises, transmission of the signal, and subsequent display and recording at the supervising station shall not exceed 90 seconds.

26.6.3.7.1, 26.6.3.7.2, 26.6.3.8

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - Reliability of the signal shall be achieved by any of the following:
      - Signal repetition (multiple transmissions repeating the same signal).
      - Parity check (a check sum algorithm of a digital message that verifies correlation between the transmitted and received message).
      - An equivalent means that provides a certainty of 99.99% that the received message is identical to the transmitted message.

26.6.3.11.2

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - If the fire alarm transmitter is sharing on-premises communications equipment, the shared equipment shall be listed as communications or information technology equipment.
    - *Most communications equipment is not specifically listed for fire alarm application but is listed in accordance with applicable product standards for general communications equipment and is acceptable.*
    - *An example of this would be a router, switch, or other piece of data communications equipment through which the alarm system data might pass which is not listed as fire alarm equipment but is listed as communications equipment.*

26.6.3.12, A26.6.3.12

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Performance-based technologies:
    - The secondary power capacity for all equipment necessary for the transmission of alarm, supervisory, trouble, and other signals located at the protected premises shall be as follows:
      - Fire alarm transmitters not requiring shared on-premises communication equipment shall comply with 10.6.7 (24 hours of secondary standby power).
      - Shared equipment owned or under the control of the subscriber should provide 24 hours of secondary standby power.
    - Supervising station secondary power capacity for all equipment necessary for reception of alarm, supervisory, trouble, and other signals shall comply with 10.6.7.

26.6.3.13.1, A26.6.3.13.1

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The requirements for a DACT in section 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 communications means.
    - The listed communications means shall meet the requirements for either a performance-based technology (26.6.3) or a radio system (26.6.5).
    - *A DACT can be used as a signaling interface from a fire alarm control unit to another means of signaling transmission. In this case, the DACT is not for direct transmission of signals via a connection through a telephone line, but rather to another means of signal transport. The other means of signal transport will then transmit the signal data via another listed means (i.e. performance-based technology or radio).*

A26.6.4.1, 26.6.4.1.1, 26.6.4.1.2

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - When a DACT is required to transmit a signal to the supervising station, it shall seize the telephone line (i.e., going off-hook) at the protected premises and disconnect an outgoing or incoming telephone call and prevent use of the telephone line for outgoing calls until signal transmission is complete. A DACT shall not be connected to a party line telephone facility.
    - The DACT shall have the means to 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 acknowledgement that the DACR has accepted that signal. The maximum time from going off-hook to on-hook shall not exceed 90 seconds per attempt.

26.6.4.2.3.1, 26.6.4.2.3.2

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - If the initial attempt is unsuccessful, the DACT shall have the means to reset and retry the transmission. Failure to complete the connection shall not prevent subsequent attempts to transmit an alarm where such alarm is generated from any other IDC or SLC, or both. Additional attempts shall be made until the signal transmission is completed, up to a minimum of 5 and a maximum of 10 attempts.
    - *A DACT can be programmed to originate calls to the DACR telephone lines (numbers) in any alternating sequence. The sequence can consist of single or multiple calls to one DACR telephone line (number), following by transmission on the alternate path or any combination thereof within the min./max. call attempts.*

26.6.4.2.3.3, A26.6.4.2.3.3

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - *The maximum number of attempts is limited to 10 to ensure a malfunctioning DACT does not tie up one of the lines connected to the DACR by making an unlimited number of repeated calls.*
    - If the maximum number of attempts to complete the sequence is reached, an indication of the failure shall be made at the protected premises.

26.6.4.2.3.4

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - A DACT shall be connected to a single telephone line (number) and one of the following:
      - One-way private radio alarm system.
      - Two-way RF multiplex system.
      - Transmission means complying with 26.6.3 (performance-based technologies).

26.6.4.2.4.1

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - A DACT shall be connected to a single telephone line (number) and one of the following (continued):
      - A second telephone line (number) where all of the following are met:
        - Access to one of the aforementioned technologies is not available.
        - The AHJ approves the arrangement.
        - The DACT is programmed to call a second DACR line when the signal transmission to the first line is unsuccessful.
        - The DACT is capable of selecting the operable means of transmission in the event of failure of the other means.
        - Each telephone line is tested in accordance with 26.6.4.2.4.2 or at alternating 6-hour intervals.

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all combinations listed in 26.6.4.2.4.1:
      - Supervision of each channel shall be provided based on the method of transmission.
      - If a signal has not been processed over the channel in the previous 6 hours, a test signal shall be processed.
      - The failure of either channel shall send a trouble signal on the other channel within 4 minutes.
      - When one channel has failed, all signals shall be sent over the other channel.

26.6.4.2.4.2

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all combinations listed in 26.6.4.2.4.1 (continued):
      - The primary channel shall be capable of delivering an indication to the DACT that the message has been received by the supervising station.
      - Unless the primary channel is known to have failed, the first attempt to send a signal shall use the primary channel.
      - Simultaneous transmission over both channels shall be permitted.
      - Failure of the telephone lines (numbers) shall be annunciated locally.

26.6.4.2.4.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all DACTs:
      - Shall be connected to two means of transmission so that a single point of failure on one means of transmission shall not affect the other means of transmission.
      - The DACT shall be capable of selecting the operable means of transmission in the event of failure of the other means.
      - The primary means of transmission shall be a telephone line (number) connected to a managed facilities-based voice network.
      - The first transmission attempt shall utilize the primary means of transmission.

26.6.4.2.5

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all DACTs (continued):
      - Each DACT shall be programmed to call a second receiver (DACR) when the signal transmission to the first called line (number) is unsuccessful.
      - Each transmission means shall automatically initiate and complete a test signal transmission to its associated receiver at least once every 6 hours.
      - A successful signal transmission of any other type, within the same 6-hour period, shall fulfill the requirement to verify the reporting system, provided that signal processing is automated so that 6-hour delinquencies are individually acknowledged by supervising station personnel.

26.6.4.2.5

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all DACTs (continued):
      - If a DACT is required 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.

26.6.4.2.5

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all DACRs:
      - Spare DACRs shall be provided in the supervising or subsidiary station.
      - Spare DACRs shall be online or be able to be switched into the place of the failed unit within 30 seconds after detection of failure.
      - One spare DACR can provide backup for up to five DACRs in use.
      - The number of incoming lines to a DACR shall be limited to 8 lines, unless the signal-receiving, processing, display, and recording equipment is duplicated and switchover can be accomplished in less than 30 seconds with no loss of signal, in which case the number of incoming lines is permitted to be unlimited.

26.6.4.3.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all DACRs (continued):
      - The DACR shall be connected to a minimum of two separate incoming telephone lines (numbers).
      - If they are in a single hunt group, they shall be individually accessible; otherwise separate hunt groups are required.
      - The lines (numbers) shall be used for no other purpose than receiving DACT signals, i.e., not used for two-way voice communication.
      - The lines (numbers) shall be unlisted.
      - Failure of any telephone line (number) due to loss of line voltage shall be annunciated visually and audibly in the supervising station.

26.6.4.3.2.1, 26.6.4.3.2.2, 26.6.4.3.2.3

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Digital communicator systems:
    - The following shall apply to all DACRs (continued):
      - A signal shall be received on each individual incoming DACR line at least once every 6 hours.
      - The failure to receive a test signal from the protected premises shall be treated as a trouble signal.

26.6.4.3.2.7, 26.6.4.3.2.8

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - Maximum allowable time from signal initiation to recording at the supervising station shall not exceed 90 seconds.
    - When any number of subsequent signals occur at any rate, they shall be recorded at a rate no slower than one every additional 10 seconds.
    - Adverse conditions in the transmission channel until recording of the adverse condition is started shall not exceed 200 seconds.

26.6.5.1.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - In addition to the maximum operating time allowed for alarm signals, the requirements of one of the following shall be met:
      - A system unit that has more than 500 IDCs shall be able to record not less than 50 simultaneous status changes within 90 seconds.
      - A system unit that has fewer than 500 IDCs shall be able to record not less than 10% of the total number of simultaneous status changes within 90 seconds.

26.6.5.1.1

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - Two-way RF multiplex systems shall be divided into Type 4 or Type 5 classifications based on their ability to perform under adverse conditions:
      - A Type 4 system shall have two or more control sites configured as follows:
        - Each site shall have an RF receiver interconnected to the supervisory or subsidiary station by a separate channel.
        - The RF transmitter/receiver located at the protected premises shall be within transmission range of at least two RF receiving sites.

26.6.5.1.4, 26.6.5.1.4.1

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - Two-way RF multiplex systems shall be divided into Type 4 or Type 5 classifications based on their ability to perform under adverse conditions:
      - A Type 4 system shall have two or more control sites configured as follows (continued):
        - The system shall contain two transmitters that are one of the following:
          - Located at one site with the capability of interrogating all of the RF transmitters/receivers on the premises.
          - Dispersed, with all the RF transmitters/receivers on the premises having the capability to be interrogated by two different RF transmitters.

26.6.5.1.4.1

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - Two-way RF multiplex systems shall be divided into Type 4 or Type 5 classifications based on their ability to perform under adverse conditions:
      - A Type 4 system shall have two or more control sites configured as follows (continued):
        - Each RF transmitter shall maintain a status that allows immediate use at all times. Facilities shall be provided in the supervising/subsidiary station to operate any off-line RF transmitter at least once every 8 hours.
        - 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.

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - Two-way RF multiplex systems shall be divided into Type 4 or Type 5 classifications based on their ability to perform under adverse conditions:
      - A Type 4 system shall have two or more control sites configured as follows (continued):
        - A physically separate channel shall be required between each RF transmitter or receiver site, or both, and the system unit.
      - A Type 5 system shall have a single control site configured as follows:
        - A minimum of one RF receiving site.
        - A minimum of one RF transmitting site.

26.6.5.1.4.1, 26.6.5.1.4.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (Two-Way RF Multiplex Systems):
    - The loading capacity tables do not apply if the signal-receiving, processing, display, and recording equipment is duplicated and switchover can be accomplished in less than 30 seconds with no loss of signal.

26.6.5.1.5.3

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (One-Way Private Radio Alarm Systems):
    - *One-way private radio alarm systems consist of a single radio alarm transmitter (RAT) at a protected premises that transmits fire alarm, supervisory, and trouble signals from the protected premises to at least two radio alarm repeater station receivers (RARSRs). The RARSRs are normally at different geographic locations but could also be at a single location. Usually, they are part of a network of multiple RARSRs at widely diverse geographic locations.*
    - Each site shall have at least two separate paths provided from a RAT to the ultimate radio alarm supervising station receiver (RASSR).

26.6.5.2.1.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (One-Way Private Radio Alarm Systems):
    - The end-to-end operating time parameters allowed for a one-way radio alarm system shall be as follows:
      - Shall be a 90% probability that the time from initiation of a single signal until recording at the supervising station will not exceed 90 seconds.
      - Shall be a 99% probability that the time from initiation of a single signal until recording at the supervising station will not exceed 180 seconds.
      - Shall be a 99.999% probability that the time from initiation of a single signal until recording at the supervising station will not exceed 7.5 minutes (450 seconds), at which time the RAT will cease transmitting.
      - When any number of subsequent signals occur at any rate, they shall be recorded at a rate no slower than one every additional 10 seconds.

26.6.5.2.2

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (One-Way Private Radio Alarm Systems):
    - The end-to-end operating time parameters allowed for a one-way radio alarm system shall be as follows (continued):
      - In addition to the maximum 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.
      - 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.

26.6.5.2.2

NFPA 72, 2022 Edition

Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (One-Way Private Radio Alarm Systems):
    - A supervised circuit shall be provided where the radio equipment is remotely located from the system unit, and the following conditions are met:
      - The following conditions shall be supervised at the supervising station:
        - Failure of AC power supplying the radio equipment.
        - Malfunction of the RF receiver.
        - Indication of automatic switchover, if applicable.
      - Interconnections between elements of transmitting equipment, including antennas, shall be supervised to cause an indication at the protected premises or transmit a trouble signal to the supervising station.
      - Personnel shall be dispatched to arrive within 12 hours to initiate repair after detection of primary power failure.

26.6.5.2.3.2

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (One-Way Private Radio Alarm Systems):
    - A Type 6 system shall have one supervising station receiver (RASSR) and at least two repeater station receivers (RARSRs).
    - A Type 7 system shall have more than one supervising station receiver (RASSR) and at least two repeater station receivers (RARSRs).
    - In a Type 7 system, when more than one RARSR is out of service, the affected supervising station shall be notified.
    - In a Type 6 system, when any RARSR is out of service, a trouble signal shall be annunciated at the supervising station.

26.6.5.2.5

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Radio Systems (One-Way Private Radio Alarm Systems):
    - The system shall be supervised to ensure that at least two independent RARSRs are receiving signals for each RAT during each 24-hour period.
    - The occurrence of a failure to receive a signal by either RARSR shall be automatically indicated and recorded at the supervising station.
    - The indication shall identify which RARSR failed to receive such supervisory signals.
    - A wireless mesh network utilizing listed components satisfies the requirements for one-way private radio alarm systems.

26.6.5.2.7, 26.6.5.2.7.1, 26.6.5.2.7.2, 26.6.5.2.8

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Chapter 26 – Supervising Station Alarm Systems:

- 26.6 Communications Methods for Supervising Station Alarm Systems:
  - Display and Recording Requirements for All Transmission Technologies:
    - If duplicate equipment for signal receiving, processing, display, and recording is not provided for supervising stations (not including proprietary supervising stations), the installed equipment shall be designed so that any critical assembly is able to be replaced from on-premises spares and be restored to service within 30 minutes.

26.6.6.3

END OF PERIOD 2 – MODULE 5