

RESIDENTIAL ASSISTED LIVING FACILITIES

FREQUENTLY ASKED QUESTIONS

Codes and Regulations

Q: Where can I find more information about the Life Safety Code?

A: <https://www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/Free-access>

Q: What edition of the Life Safety Code are we surveyed under?

A: Assisted Living Facilities are required to meet the 2018 edition of NFPA 101, *The Life Safety Code* (LSC)

Q: What standard are we held to for Oxygen Storage?

A: National Fire Protection Association (NFPA) Standard 99, Health Care Facilities Code, 2018 edition, Chapter 11.

Resident Room Requirements

Q: Are the square footage requirements for resident rooms changing with the new adopted rule?

A: Yes, only facilities constructed on/or after January 1, 2021, square footage requirements for resident sleeping rooms must provide at least one hundred (100) square feet of floor space per resident for both single bed and multi-bed sleeping rooms.

Door Locking Arrangements

Q: What type of locks are allowed to be used on exit doors?

A: NFPA 101 Chapter 7.2.1.5.1 Require locks, if provided shall **NOT** require a use of a key, a tool, or special knowledge or effort for operation from the egress side.

If the facility elects to install Special Locking Arrangements

- Delayed-egress electrical locking systems complying with 7.2.1.6.1 shall be permitted on exterior doors only. **(These locks can be applied to secure and non-secure facilities/units)** *See **Attachment D**
- Sensor-release of electrical locking systems complying with 7.2.1.6.2 shall be permitted. **(These locks can be applied to secure and non-secure facilities/units)** *See **Attachment D**
- Door-locking arrangements shall be permitted where the clinical needs of residents require specialized security measures or where residents pose a security threat, provided all of the following conditions are met:
 - (1) Staff can readily unlock doors at all times
 - (2) The building is protected by an approved automatic sprinkler system

Doors that are located in the means of egress and are permitted to be locked shall comply with ALL of the following:

Provisions shall be made for the rapid removal of occupants by means of one of the following

- (a) Remote control of locks from within the locked building
- (b) Keying of all locks to keys carried by staff at all times
- (c) Other such reliable means available to staff at all times

Only one locking device shall be permitted on each door.

Portable Space Heaters/Decorative Electric Fire Places

Q: Are portable Space Heaters allowed in RALF buildings? Is an electric fire place the same as a portable space heater?

A: According to *IDAPA 405.05.f*, Portable heating devices of any kind are prohibited; Portable electric space heaters and moveable fuel-fired heaters are considered portable comfort heating devices. Exceptions: Heated mattress pads, electric blankets and heating pads when ordered by an authorized provider, physician.

Decorative Electric Fire Places are considered a portable space heater. There are provisions to eliminate the portable status:

- (1) Safely secure it to a wall.
- (2) Hard wire it to the building's electrical system and should route on its own breaker.

Fire Drills

****Fire Drills are now labeled "Emergency Egress and Relocation Drills"**

Q: How often are emergency and relocation drills required?

A: These must be conducted not less than six (6) times a year on a bimonthly basis, with not less than two (2) conducted during the night when residents are sleeping.

The intent of the drills is so that they are conducted per shift and not to be stacked for Day or Evening Shift. [**see Attachment A for details**]

Q: Are drills required to be unannounced to the residents?

A: The drills shall be permitted to be announced to the residents in advance. Staff members are required to be unannounced.

Q: Are drills allowed to be silent?

A: No... All of the occupant notification devices (i.e. horns, chimes, strobes, bells, whistle, etc.) must be activated during **all** fire drills.

Q: During the drills are all residents required to actually evacuate the residents to a safe location?

A: The drills shall involve the actual evacuation of **all** residents to an assembly point, as specified in the facility's emergency action plan, and shall provide residents with experience in egressing through all exits and means of escape.

A: Those residents who cannot meaningfully assist in their own evacuation or who have special health problems shall not be required to actively participate in the drill.

Q: What is the purpose of an Emergency Egress and Relocation Drills?

A: The purpose of a drill is multi-fold:

- For staff to become familiar with the emergency process,
- Evaluate the staff's response to the fire alarm signals
- Familiarize staff with the signals and emergency action required under varied conditions
- Evaluate the building's response to the fire alarm signal
- Evaluate the fire alarm system's response

Notification Devices- Audible/Visual

Q: Are we required to have audible/visual notification devices installed in all rooms?

A: Yes, this shall be enforced in all **new construction, new additions, and conversions** of buildings not continuously licensed previously as assisted living and in the case of a fire alarm system replacement or upgrade. The devices audible/visual devices should be of Low Frequency/High Candela. The requirements of this office are to ensure visual fire alarm notification devices are installed in resident living, sleeping and common areas. This is based upon the continued development of superior notification signaling devices and the general awareness of increased hearing loss in the general public with even greater hearing loss developing in seniors. This increased awareness is justified by the evidence of studies conducted by NFPA, HIH, NCOA, the hearing loss Association of America.

Fire Sprinkler Systems

Q: How often does our fire sprinkler system require inspections?

A: According to NFPA 25. Table 5.1.1.2 Summary of Sprinkler System Inspection, Testing, and Maintenance, gauges for wet pipe sprinkler systems shall be inspected Quarterly Gauges on dry, pre-action systems shall be inspected Monthly/Quarterly to ensure that normal air and water pressures are being maintained. [See Attachment C]

Q: Why am I being cited for debris like dust and paint on my sprinkler heads? Why do we have to replace these sprinkler heads? Why is it so important?

A: According to NFPA 25.2-2.1 - Sprinklers shall be inspected from the floor level annually. Sprinklers shall be free of corrosion, foreign materials, paint, and physical damage and shall be installed in the proper orientation (e.g., upright, pendant, or sidewall). Any sprinkler shall be replaced that is painted, corroded, damaged, loaded, or in the improper orientation. Having any of the conditions stated above can have a detrimental effect on the performance of sprinklers by affecting water distribution patterns, insulating thermal elements, delaying operation, or otherwise rendering the sprinkler inoperable or ineffectual.

Q: How many spare sprinkler heads are required to be stored in our facility?

A: The stock of spare sprinklers shall be as follows:

- (a) For protected facilities having under 300 sprinklers —no fewer than 6 sprinklers
- (b) For protected facilities having 300 to 1000 sprinklers —no fewer than 12 sprinklers
- (c) For protected facilities having over 1000 sprinklers —no fewer than 24 sprinklers

A minimum of two sprinklers of each type and temperature rating installed shall be provided.

Detector Sensitivity Testing

Q: How often is sensitivity testing for smoke detectors required?

A: Detector sensitivity shall be checked within 1 year after installation and every alternate year thereafter. After the second required calibration test, if sensitivity tests indicate that the detector

has remained within its listed and marked sensitivity range (or 4 percent obscuration light gray smoke, if not marked), the length of time between calibration tests shall be permitted to be extended to a maximum of 5 years.

Emergency Generators

Q: Are RALFs required to have a generator for emergency power?

A: Currently there is no requirement for RALFs to have a generator for emergency power. However, an emergency generator is highly recommended due to the uniqueness of an assisted living. Facilities that elect to have an emergency generator must ensure that the system is designed and maintained to meet the applicable codes in NFPA Standard 110. Facilities that have an installed generator must maintain it in accordance with NFPA 110. [see Attachment B for details]

Q: What code requirement covers Emergency Generators?

A: NFPA 110 covers performance requirements for emergency and standby power systems providing an alternate source of electrical power in buildings and facilities in the event that the normal electrical power source fails. Systems include power sources, transfer equipment, controls, supervisory equipment, and accessory equipment needed to supply electrical power to the selected circuits. [see Attachment C for details]

Smoking Regulations

Q: How far away from the building does the outside smoking area need to be located?

A: Currently IDAPA 16.03.22 does not specify a distance, but it is recommended 10-25 ft away from windows and entrances.

Q: How do I make my designated smoking area safer?

A: Smoking rules need to be adopted and enforced. Areas where smoking is permitted should be clearly identified.

Smoking is prohibited in any area where flammable or combustible liquids, combustible gases, or oxygen is used or stored and in any other hazardous location.

Ashtrays of noncombustible material and safe design are to be provided and required to be used in all areas where smoking is permitted.

Self-closing cover devices into which ashtrays can be emptied should be made available to all areas where smoking is permitted and should be required to be used.

Smoking by residents classified as not responsible with regard to their ability to safely use and dispose of smoking materials shall be prohibited. Where the resident is under direct supervision by staff or by a person approved by the administration, smoking may be permitted.

Smoking materials should not be provided to residents or maintained by residents without the approval of the administration.

Smoking on Oxygen

Q: What if a resident that is currently oxygen dependent wants to smoke?

A: Residents who decide to smoke must first turn off the oxygen tank and remove the oxygen tubing before entering the smoking area. Having residents sign a document provided by the facility that states the resident will accept the responsibility **does not** absolve the facility of its responsibility to provide supervision and a safe living environment.

Relocatable Power Taps

Q: What are the prohibited applications for Relocatable Power Taps?

A: The following are prohibited uses of an RPT:

- Medical equipment
- Daisy chain or plugging one (1) plug strip into a second plug strip
- Appliances
- As a convenience, in lieu of permanent installed receptacles; and
- Extend through walls, ceilings, floors, under doors or floor coverings, or be subject to environmental of physical damage.

Q: Can we use Relocatable Power Taps?

A: Yes, Relocatable Power Taps (RPTs) must be Underwriter Laboratories (U/L) approved with the following requirements:

- Should only be used for multi-media equipment
- RPTs directly connected to a wall outlet
- Have a built-in surge protector

[See XBYs Guide Info Relocatable Power Taps]

Extension Cords

Q: Can we have extension cords in use on the outside of the facility?

A: No, extension cords and multi-plug adapters are strictly prohibited

Fire Places

Q: Are there provisions for fire place safety?

A: Of course, All fireplaces must provide a safety barrier and have heat-tempered glass fireplace enclosures equivalent to ASTM Standard (ASTM E- 119) and UL 263 test requirements.

Carbon Monoxide Detectors

Q: Are we required to install Carbon-Monoxide Detectors in the facility?

A: New Residential Assisted Living Facilities approved on or after January 1, 2021 will be required to install carbon-monoxide detection

Attic Protection

Q: Do attics require sprinkler or other types of protection?

A: Yes, Attics shall be protected.

- If attics used for living purposes, storage, or fuel-fired equipment shall be protected with automatic sprinklers that are part of the required, approved automatic sprinkler system.
- If attics not used for living purposes, storage, or fuel-fired equipment shall meet one of the following criteria:
 - (1) Attics shall be protected throughout by a heat detection system arranged to activate the building fire alarm system
 - (2) Attics shall be protected with automatic sprinklers that are part of the required, approved automatic sprinkler system.
 - (3) Attics shall be of noncombustible or limited-combustible construction.
 - (4) Attics shall be constructed of fire-retardant-treated wood
 - (5) Attics shall be protected by heat alarms arranged to provide occupant notification

Special Provisions for Adoption of NFPA 101, 2018 edition
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1) Not adopted are the provisions at Chapters 32.3.2.11.2 and 33.3.2.11.2, related to “lockups.” Lock-ups, as described in the LSC, are not appropriate under ANY circumstances for board and care facilities.

2) Attic Protection

- If attics used for living purposes, storage, or fuel-fired equipment shall be protected with automatic sprinklers that are part of the required, approved automatic sprinkler system.
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 - (1) Attics shall be protected throughout by a heat detection system arranged to activate the building fire alarm system
 - (2) Attics shall be protected with automatic sprinklers that are part of the required, approved automatic sprinkler system.
 - (3) Attics shall be of noncombustible or limited-combustible construction.
 - (4) Attics shall be constructed of fire-retardant-treated wood
 - (5) Attics shall be protected by heat alarms arranged to provide occupant notification

This office believes that 2 years from the effective date of this rule would be an ample amount of time to come into compliance with this requirement, therefore, we are finalizing a 2-year phase-in period. This rule will go into effect on July 1, 2022.

Appendix

2020	Day Shift	Swing Shift	NOC Shift
January	X		
March		X	
May			X
July	X		
September		X	
November			X

ATTACHMENT A

Records must be maintained on file at the facility and contain a description, date and time of the drill, response of the personnel and residents, problems encountered, and recommendations for improvement.

ATTACHMENT B

Generator Requirements- If the facility elects to have a generator for Emergency Power Supply System, they must follow NFPA 110, 2016 edition. Below is a summary of the chapter

Emergency generators are a part of an emergency power supply system (EPSS).

There are two important definitions to keep in mind:

- Emergency Power Supply (EPS): “The source of electric power of the required capacity and quality for an emergency power supply system (EPSS)”.
- Emergency Power Supply System (EPSS): “A complete functioning system of an EPS coupled to a system that can consist of conductors, disconnecting means, and overcurrent protective devices, transfer switches, and all control, supervisory, and support devices up to and including the load terminals of the transfer equipment needed for the system to operate as a safe and reliable source of electrical power.”

Maintenance and testing is critical to the continued reliability of your emergency generator and must be performed in accordance with manufacturer’s recommendations, instruction manuals, and the minimum requirements of NFPA 110 and the authority having jurisdiction (AHJ).

Defining Terms

NFPA 110 defines the electrical power source for the emergency power system as the emergency power supply (EPS). This includes the actual generator, turbine, or other source producing the power used by the system.

NFPA defines the emergency power supply system (EPSS) as the distribution system from the EPS to the load terminals of the transfer equipment.

NFPA defines two levels of EPSSs.

Level 1 is defined as “where failure of the equipment to perform could result in loss of human life or serious injuries.”

Level 2 is defined as “where failure of the EPSS to perform is less critical to human life and safety.” There are numerous articles that further discuss the code requirements and implications of NFPA 110 and its relationship with other codes. As such, this article does not focus on the details of NFPA 110 definitions. Instead, it concentrates on ways to meet NFPA 110 and 70 while providing the owner with a system that meets expectations.

Your facility should have a least two sets of instruction manuals for all major generator components. One set should be kept in a secure, convenient location near the equipment. The other set should be kept in a different secure location.

These manuals must, at a minimum, contain the following:

- A detailed explanation of the operation of the emergency power supply system
- Instructions for routine maintenance
- Detailed repair instructions
- An illustrated parts list and part numbers
- Illustrated and schematic drawings of electrical wiring systems, including operating and safety devices, control panels, instrumentation and annunciators

Routine maintenance and operational testing of the emergency generator and associated components must be overseen by a properly trained person NFPA 110(16), Sec. 8.4.8

The standards do not establish a specific date and time of day for required testing. Those are to be determined by the owner and are typically scheduled so as to provide minimum disruption of facility operations. *Requirements for routine maintenance and operational testing of emergency generators can be found in Chapter 8 of the 2016 edition of NFPA 110

Weekly inspections For Level 1 and Level 2

To meet state licensure requirements, healthcare facilities must inspect their emergency generators weekly [see NFPA 110(16), Sec. 8.4.1] At a minimum, this weekly inspection should include a check of the following:

1. Fuel Level
2. Oil Level and Viscosity
3. Cooling system
4. Exhaust system
5. Battery system
6. Electrical Connections
7. Physical Condition

**NOTE: This is not an all-inclusive list. The equipment manufacturer may have additional maintenance requirement*

Monthly Testing

Level 1 and Level 2

To meet licensure requirements, assisted living facilities must exercise their emergency generators under load at least monthly

The base requirement is that generators be exercised for a minimum of 30 minutes

2. Normal operating temperatures are set by the manufacturer. Something to consider when scheduling your monthly tests is that your particular generator may not reach operating temperature in 30 minutes* and that running the generator for short periods of time may be harmful to the engine. You also want to make sure that the generator runs long enough to ensure that all engine parts are properly lubricated.

a. Loading that maintains the minimum exhaust gas temperatures recommended by the manufacturer (it is unlikely that minimum exhaust gas temperatures will be reached if the generator isn't carrying a load equivalent to at least 30 percent of the generator's nameplate kW rating).

b. Spark-ignited generators that do not meet the testing requirements outlined in 1.a above, it will likely be necessary to add more load to the generator or conduct a load bank test to comply with testing requirements (a load bank is, typically, a mobile piece of equipment that simulates the actual electrical load the generator is intended to power). Where equivalent loads are used for testing, it's important to note that such loads are required to be automatically replaced with the emergency loads in case of failure of the normal power [see NFPA 110(16), Sec. 8.4.2.4].

3. Load tests must include complete cold starts [NFPA 110(16), Sec. 8.4.4].

4. Time delays must be set as follows [see NFPA 110(16), Sec. 8.4.5]:

a. Time delay on start: 1 second minimum. *

Exception: Gas turbine cycle: 0.5 second minimum.

*Note: NFPA 101(12), Sec. 7.9.1.3 requires that emergency loads be picked up within 10 seconds.

b. Time delay on transfer to emergency: none.

c. Time delay on restoration to normal power: 5 minutes minimum (to give the primary source sufficient time to stabilize before retransfer of the load, a delay of between 15 and 30 minutes is recommended).

d. Time delay on shutdown: 5 minutes minimum.

Annual Inspections ****Level 1 and Level 2****

An annual load test 12-months from the previous annual load test (if conducted), plus or minus 30 days, may be required if one (or more) of the monthly load tests fails to meet the 30% capacity rule. If all 12 monthly load tests meet or exceed the 30% load capacity, then the annual test is not required.

The procedure for the annual test is to operate the generators at:

25% (or more) capacity for 30 minutes

50% (or more) capacity for 30 minutes

75% (or more) capacity for 60 minutes, for a 2-hour continuous test

****If Applicable** 3-year testing for ****Level 1 ONLY** emergency power supply systems (EPSS) – those installed where failure of the equipment to perform could result in loss of human life or serious injuries – are required to be tested at least once within every 36 months in accordance with the following [see NFPA 110 (10), Sec. 8.4.9]:

****Level 1 ONLY**** Testing must be continuous for the duration of the generator's assigned class, but is not required to exceed 4 hours:

The test must be initiated by operating at least one transfer switch test function and then by operating the test function of all remaining ATs or initiated by opening all switches or breakers supplying normal power to all ATs that are part of the EPSS being tested.

The minimum load for a diesel-powered emergency power supply (EPS) must be not less than 30 percent of the standby nameplate kW rating of the generator. A supplemental load is allowed to be used to meet or exceed the 30 percent requirement.

The minimum load for a diesel-powered EPS must be that which maintains the minimum exhaust gas temperatures as recommended by the manufacturer.

The minimum load for spark-ignited EPSSs must be the available EPSS load.

****Level 1 ONLY**** The test required in 8.4.9 is allowed to be combined with one of the monthly tests required by Sec. 8.4.2 and one of the annual tests required by Sec. 8.4.2.3 as a single test.

****Level 1 ONLY**** Where the test required by Sec. 8.4.9 is combined with the annual load bank test, the first 3 hours must be not less than the minimum loading required by Sec. 8.4.9.5 and the remaining hour must be not less than 75 percent of the standby nameplate kW rating of the generator.

****Level 1 ONLY**** The 3-year, 4-hour load test is not dependent on the monthly or annual load tests. The generator needs to operate at a minimum of 30% capacity for 4 continuous hours. The test needs to be conducted 36 months from the previous 3-year, 4-hour test, plus or minus 45 days. An actual power

outage event that operates the generator for 4 continuous hours at a load capacity of at least 30% would qualify the generator as meeting this load test, but it would have to be documented.

****Level 1 ONLY****Some organizations have asked if they can combine the annual test with the 3-year, 4-hour load test, and the answer is yes, provided all the provisions of both tests are met. This means if the test starts at 25% load for 30 minutes, then 50% load for the next 30 minutes, then 75% load for the next 180 minutes, and then stops, it would not meet the requirements of the 3-year, 4-hour load test because it started at 25% load instead of 30% load. The test did not operate for 4 continuous hours at a minimum of 30% load

Document Testing Results

NFPA requires the establishment of a written schedule for routine generator maintenance and testing.

Because there is a lot riding on the successful operation of a facility's emergency generator, it is strongly recommended to schedule for **Level 1** emergency power supply systems be followed when establishing your maintenance schedule. A written record of generator inspections, tests, exercising, operation and repairs must be maintained on the premises and be available for review by the surveyor on request. This record must, at a minimum, include: the date of the report, name(s) of the person(s) providing the service, identification of unsatisfactory conditions and corrective action taken (including parts replaced), and any testing of repairs recommended by the manufacturer [see NFPA 110(10), Sections 8.3.4 and 8.3.4.1].

It's important that at least two people in your facility know where your logs are kept increasing the likelihood that they can be readily provided if requested during an inspection.

Calculate Generator Load

To calculate a 3-phase kWh from measuring amps of each phase

$kW = \text{Volts (Average)} \times \text{Amps (average)} \times \text{Power-Factor (.8)} \times 1.732 / 1000$

*Use the average of the three voltage readings $(V1+V2+V3) / 3$

*Take the amperage reading from each phase and average them $(A1+A2+A3) / 3$

** The power factor (pf) is the ratio between kilowatts (kW) and kilovolt amps (kVa) that is drawn from an electrical load. It is determined by the generators connected load. The pf on the nameplate of a generator relates the kVa to the kW rating.

***The standard power factor for a three-phase generator is .8.

Once kWh is determined divide that number by what shows on the generator kW gauge to ensure greater than 30% is reached during monthly load test. If the 30% is not reached an annual load test shall be required.

Example: $205A \times 554V \times .8 \times 1.732 / 1,000 = 157 / 200kW = 78\% \text{ load}$

Transfer switches

1. Transfer switches are required to be operated monthly
2. This monthly test must consist of electrically operating the transfer switch from the normal/standard position to the alternate position and then a return to the normal/standard position
 - In many cases, a "Transfer Test" switch or button is provided and can be used to perform this test. Where this feature does not exist, it may be necessary to manually disconnect normal power in some fashion to the transfer switch (see "some words of caution on testing" below).

3. Transfer switches must also be inspected monthly to ensure that they are maintained free from accumulated dust and dirt and to check for deterioration of the transfer switch contacts

4. Because they are such a key component in the successful operation of your emergency generator, it is recommended that you consider having infrared testing of your transfer switch(es) conducted annually to check for loose connections.

Reasoning for Emergency Generators

Emergency Generators, if installed, ensure performance requirements for emergency and standby power systems providing an alternate source of electrical power to loads in buildings and facilities in the event that the primary power source fails. Also, if the facility elects to “shelter in place” these systems will be needed to operate to ensure continuity of care.

We also consider that medical and nursing sciences are becoming progressively more dependent on electrical apparatus for the preservation of life of residential assisted living facilities. For example, year by year more residents are dependent on supplemental oxygen. In another sense, lighting is needed in strategic areas in order that precise procedures can be carried out, and power is needed to safeguard such vital services as refrigerated storage is held. Interruption of normal electrical service in residential assisted living facilities can be caused by catastrophes such as storms, floods, fires, earthquakes, or explosions; by failures of the systems supplying electrical power; or by incidents within the facility. For all such situations, electrical systems should be planned to limit internal disruption and to provide for continuity of vital services at all times. Outages might be corrected in seconds or might require hours for correction. This indicates that the system or protection needs to be designed to cope with the longest probable outage.

Attachment C
LSC Sprinkler Testing, Inspection, and Maintenance Requirements 2017 edition

Table 5.1.1.2 Summary of Sprinkler System Inspection, Testing, and Maintenance

Item	Frequency	Reference
Inspection		
Control valves		Chapter 13
Fire department connections		Chapter 13
Gauges (wet and deluge systems)	Quarterly	Chapter 13
Gauges (dry and preaction systems)	Monthly/quarterly	Chapter 13
Hanger/braces/supports	Annually	5.2.3
Heat tracing	Per manufacturer's requirements	5.2.7
Hydraulic design information sign	Annually	5.2.6
Information signs	Annually	5.2.8, 5.2.9
Internal piping condition		Chapter 14
Pipe and fittings	Annually	5.2.2
Sprinklers	Annually	5.2.1
Sprinklers (spare)	Annually	5.2.1.4
Supervisory signal devices (except valve supervisory switches)	Quarterly	5.2.5
System valves		Chapter 13
Valve supervisory signal devices	Quarterly	5.2.5
Waterflow alarm devices	Quarterly	5.2.5
Test		
Antifreeze solution	Annually	5.3.4
Control valves		Chapter 13
Gauges	5 years	Chapter 13
Main drain		Chapter 13
Sprinklers	At 50 years and every 10 years thereafter	5.3.1.1.1, 5.3.1.1.1.1, 5.3.1.1.1.2
Sprinklers	At 75 years and every 5 years thereafter	5.3.1.1.1.5
Sprinklers (dry)	10 years and every 10 years thereafter	5.3.1.1.1.6
Sprinklers (extra high or greater temperature solder type)	5 years	5.3.1.1.1.4
Sprinklers (fast-response)	At 20 years and every 10 years thereafter	5.3.1.1.1.3
Sprinklers (harsh environments)	5 years	5.3.1.1.2
Supervisory signal devices (except valve supervisory switches)		Chapter 13
System valves		Chapter 13
Valve supervisory signal devices		Chapter 13
Waterflow alarm devices (Mechanical)	Quarterly	5.3.3.1
Waterflow alarm devices (vane and pressure switch type)	Semiannually	5.3.3.2
Maintenance		
Low-point drains (dry pipe and preaction systems)		Chapter 13
Sprinklers and automatic spray nozzles protecting commercial cooking equipment and ventilation systems	Annually	5.4.1.7
Valves (all types)		Chapter 13
Investigation		
Obstruction		Chapter 14

7.2.1.6.1.1 Delayed Egress

Approved, delayed-egress electrical locking systems shall be permitted to be installed on door assemblies serving low- and ordinary-hazard contents in buildings protected throughout by an approved automatic fire detection system in accordance with Section 9.6 or an approved, supervised automatic sprinkler system in accordance with Section 9.7, and where permitted in Chapters 11 through 43 all of the following criteria are met:

- (1) The delay of the delayed-egress electrical locking system shall deactivate allowing unobstructed egress upon actuation of one of the following:
 - (a) Approved, supervised automatic sprinkler system in accordance with Section 9.7
 - (b) Not more than one heat detector of an approved, supervised automatic fire detection system in accordance with Section 9.6
 - (c) Not more than two smoke detectors of an approved, supervised automatic fire detection system in accordance with Section 9.6
- (2) The delay of the delayed-egress electrical locking system shall deactivate allowing unobstructed egress upon loss of power controlling the lock or locking mechanism.
- (3) "An irreversible process shall release the electrical lock in the direction of egress within 15 seconds, or 30 seconds where approved by the authority having jurisdiction, upon application of a force to release device required in 7.2.1.5.10 under all of the following conditions:
 - (a) The force shall not be required to exceed 15 lbf (67 N).
 - (b) The force shall not be required to be continuously applied for more than 3 seconds.
 - (c) The initiation of the release process shall activate an audible signal in the vicinity of the door opening.
 - (d) Once the electrical lock has been released by the application of force to the releasing device, rearming the delay electronics shall be by manual means only.
- (4) "A readily visible, durable sign that conforms to the visual characters requirements of ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities, shall be located on the door leaf adjacent device in the direction of egress, and shall read as follows:
 - (a) PUSH UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 SECONDS, for doors that swing in the direction of egress travel
 - (b) PULL UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 SECONDS, for doors that swing against the direction of egress travel
- (5) The egress side of doors equipped with delayed-egress electrical locking system shall be provided with emergency lighting in accordance with Section 7.9.
- (6) Hardware for new installations shall be listed in accordance with ANSI/UL 294, Standard for Access Control System Units.

7.2.1.6.1.2 Sensor-Release of Electrical Locking Systems.

The provisions of 7.2.1 .6.2 for sensor-release of electrical locking systems shall not apply to door assemblies with delayed-egress electrical locking systems.

7.2.1.6.2 Sensor-Release of Electrical Locking Systems.

Where permitted in Chapters 11 through 43, door assemblies in the means of egress shall be permitted to be equipped with sensor-release electrical locking system hardware provided that all of the are met:

- (1) A sensor shall be provided on the egress side, arranged to electrically unlock the door leaf in the direction of egress upon detection of an approaching occupant.
- (2) Door leaves shall automatically electrically unlock in the direction of egress upon loss of power to the sensor or to the part of the locking system that electrically locks the door leaves.
- (3) Door locks shall be arranged to electrically unlock in the direction of egress from a manual release device complying with all of the following criteria:
 - (a) The manual release device shall be located on the egress side, 40 in. to 48 in. (1015 mm to 1220 mm) vertically above the floor, and within 60 in. (1525 mm) of the secured door opening otherwise permitted by 7.2.1.6.2(3)(c).
 - (b) The requirement of 7.2.1 .6.2(3)(a) to locate the manual release device within 60 in. (1525 mm) of the secured door opening shall not apply to previously approved existing installations.
 - (c) The manual release device shall be readily accessible and clearly identified by a sign that reads as follows: PUSH TO EXIT.

(d) When operated, the manual release device shall result in direct interruption of power to the electrical lock — independent of the locking system electronics — and the lock shall remain locked not less than 30 seconds.

(4) Activation of the building fire-protective signaling system, if provided, shall automatically electrically unlock the door leaves in the direction of egress, and the door leaves shall remain unlocked until the fire-protective signaling system has been manually reset.

(5) The activation of manual fire alarm boxes that activate the building fire-protective signaling system specified in 7.2.1.6.2(4) shall not be required to unlock the door leaves.

(6) Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically electrically unlock the door leaves in the direction of egress, and the door leaves shall remain unlocked until the fire-protective signaling system has been manually reset.

(7) The egress side of sensor-release electrically locked egress doors, other than existing sensor-release electrically locked egress doors, shall be provided with emergency lighting in accordance Section 7.9.

(8) Hardware for new installations shall be listed in accordance with ANSI/UL 294, Standard for Access Control System Units.