STANDARDS UPDATE NOTICE (SUN)
ISSUED: June 17, 2020

STANDARD INFORMATION

Standard Number: UL 827
Standard Name: Central-Station Alarm Services
Standard Edition and Issue Date: 8th Edition Dated October 29, 2014
Date of Revision: October 29, 2014, September 22, 2016, and April 18, 2018
Date of Previous Revision of Standard: July 3, 2013

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **January 15, 2021**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes:

October 29, 2014:
- Addition of requirements for installation and operation of central-station automation systems
- Addition of requirements for MEW Factor

September 22, 2016:
- Additional Requirements that Include Equivalent Options for Communication Services Providers.

April 18, 2018:
- New requirements for detecting the presence of fire and the annunciation
- Automated Processing of Low Level Signals
- New requirements for protection of windows

Specific details of new/revised requirements are found in table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.

STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		Additions to existing requirements are <u>underlined</u> and deletions are shown ~~lined out~~ below.
		The following changes reflect the October 29, 2014 revision
7	Info	**Physical Protection**
7.9		Requires the use of a BA & FA if repeater equipment is not duplicated, and when a RSMC or Redundant Site is not staffed
8	Info	**Fire Protection**
8.1	Info	**Portable fire extinguishers**
8.1.2		Clarifies requirement when this equipment is away from the operating room and consolidates related requirements in a single clause
9	Info	**Standby Lighting**
9.4		Added reference to UL 1310
10	Info	**Clocks**
10.4		Expanded by reference to RSMC, Redundant Sites
10.5		Expanded by reference to Redundant Sites that are not occupied
10.6		Expanded existing description to clarify that all time indicating equipment is to be checked
11	Info	**Power Supply**
11.1	Info	**General**
11.1.3		Expanded to add a reference to MEW
11.5	Info	**Secondary power supply**
11.5.2		Revised to clarify who may conduct the restoration
11.5.3		Add a requirement the critical operating functions are monitored
11.5.4		Requires a manual start generator to be controlled by the central station when two generators are used
11.6	Info	**Continuity of power supply**
11.6.3		Added new clause to establish batteries described in 11.6.1 are only required if the mfg. of the equipment require it
11.10	Info	**Trickle- or float-charged batteries**
11.10.5		Establishes the retention of the test record
11.13	Info	**Security**

CLAUSE	VERDICT	COMMENT
11.13.7		Changed description of physical protection from outdoors to at grade level or on an accessible roof.
11.13.8		Clarifies when protection of a generator on a roof that is above 18 feet is needed.
11.13.9		Expanded to require the supervision of shutoff valves where possible
11.13.10		Introduced requirement for the electrical supervision of shut-off valves when fuel is stored in tanks.
11.14		**Uninterruptible power supply (UPS) units**
11.14.2		Requires a fault tolerant UPS or multiple UPS units
11.14.3		Editorial change to simply reference another section of the standard
11.14.5		Clarifies that a UPS used in a central station must be able to be powered from a generator. Assures continues operation
12	Info	**Communication Infrastructure**
12.1	Info	**General**
12.1.6		Establishes the use of independent ISP is PSDN or MFVN is used when they are available.
12.1.7		Establishes the use of independent MFVN when voice communication is through MFVN
12.5	Info	**Antenna cable**
12.5.3		Clarifies the need for protection of cables at grade level, of accessible roofs
12.5.4		Clarifies the need for protection of cables when tower is located next to a building
12.5.5		Clarifies the need for protection of cables where access to the roof is not controlled by the station
12.6	Info	**Communication equipment**
12.6.1		All communication equipment is required to comply with the applicable UL Standard
12.6.2		Establishes requirement for standby power
12.6.3		Establishes requirement for equipment to be duplicated or have spares
12.6.4		Notice to operators upon failure of communication equipment
12.6.5		Establishes automatic rerouting of communication of traffic in the event of a failure of a single circuit
13	Info	**Subsidiary Stations**
13.6		Clarifies the fitting out of a subsidiary
13.12		Clarifies the means of voice communication that may be used
17	Info	**Alarm Monitoring Automation Systems**
17.1	Info	**General**
17.1.2		States automation system is to be installed to comply the instructions

CLAUSE	VERDICT	COMMENT
17.1.3		Installation shall comply with this UL 827
17.1.4		References NEC
17.1.5		References sure arrestors when optical fiber is used
17.2	Info	**Automation installation software**
17.2.1		Requires a current copy of the installation software to be onsite.
17.3	Info	**Automation system equipment**
17.3.1		Describes all of the components that are used to form a computer system
17.3.2		References UL 1610 and UL 864 when the software is Listed
17.3.3		References UL 60950-1 when classified software is used
17.3.4		Establishes the system as having to be a high-availability system
17	Info	**Monitoring automation system performance**
17.4.1		Requires the operation of the system to be monitored by software
17.4.2		Requires a report of the unused capacity of the equipment
17.4.3		Details the content of reports
17.4.4		Reestablishes the signal throughput speed that was in UL 1981.
17.5	Info	**Monitoring equivalent weight (MEW) calculation**
17.5.1		Describes the rational for the MEW
17.5.2		Describes the weights given various types of systems
17.5.3		Explains an example of the calculation
17.5.4		Provides user with a reference
17.6	Info	**Minimum MEW factor requirements**
17.6.1	Info	**MEW Factor 1 to 999**
17.6.1.1		Establishes the system is optional based on the number of accounts that are monitored
17.6.1.2		This establishes the basic configuration that automation systems in ascending MEW levels build upon
17.6.2	Info	**MEW Factor 1,000 to 9,999**
17.6.2.1		Establishes the requirement for an automation to be used
17.6.2.2		Describes a range of ways the second computer can be configured
17.6.2.3		Describes the ways spare parts may be maintained and the system restored to operation
17.6.2.4		References 17.3 7 17.4
17.6.2.5		Increases the interval of time to run the back-up system
17.6.3	Info	**MEW Factor 10,000 to 99,999**
17.6.3.1		Establishes the requirement for when a tertiary system

CLAUSE	VERDICT	COMMENT
17.6.3.2		Describes the tertiary system
17.6.3.3		Establishes a wider range of configurations for the tertiary system
17.6.3.4		Establishes the tertiary system is to be powered down, except to update the database
17.6.3.5		Established the process for preparing the tertiary system for use
17.6.3.6		Describes the configuration when the tertiary is located elsewhere
17.6.3.7		Allows an exception for the configuration described in 17.6.1.2 d) & e)
17.6.4	Info	**MEW Factor 100,000 or greater**
17.6.4.1		Introduces the requirement for a redundant site when the calculation of the MEW is 100,000 or greater.
17.6.4.2		Establishes at least one staffed and operational redundant site is required.
17.6.4.3		Establishes the requirement for sufficient workstations to be installed in a redundant site for the number of individuals required to operate the site.
17.6.4.4		Establishes the site shall be compliant as applicable with Sections 6 – 17 of UL 827.
17.6.4.5		Establishes the site shall be fully operational within one hour of the failure of the central station.
17.6.4.6		Establishes the tertiary system shall be configured so that the system can be operational within six minutes of the failure of the primary and secondary automation systems.
17.8	Info	**Redundant site options**
17.8.2		Establishes the various types of organizations that can operate a redundant site.
17.8.3		Establishes the minimum requirements that should be included in a contract or written agreement when a redundant site is contracted.
17.8.4		Establishes the computer equipment used in a redundant site to form a tertiary system shall not be shared with others.
17.9	Info	**Site specific data sheets**
17.9.1		Establishes the requirements for the use of site specific data sheets to record the compliance of the automation system installation.
17.10	Info	**Back-up data storage system**
17.10.1	Info	**General**
17.10.1.1		General Information
17.10.2		Brings an updated version of the language in UL 1981
17.10.3		Brings an updated version of the language in UL 1981
17.11	Info	**Spare parts**
17.11.1		Brings an updated version of the language in UL 1981
17.11.2		Brings an updated version of the language in UL 1981

CLAUSE	VERDICT	COMMENT
17.12	Info	**Connections to the computer system**
17.12.1		Brings an updated version of the language in UL 1981
17.12.3		Brings an updated version of the language in UL 1981
17.12.4		Brings an updated version of the language in UL 1981
17.12.5		Introduces equipment in a redundant site
17.12.6		Introduces network security measures
17.13	Info	**Printer-less environment**
17.13.1		Brings an updated version of the language in UL 1981
17.14	Info	**Performance**
17.14.2	Info	**Electrical supervision**
17.14.2.1		Brings an updated version of the language in UL 1981
17.14.2.2		Brings an updated version of the language in UL 1981
17.14.2.3		Brings an updated version of the language in UL 1981
17.14.2.4		Brings an updated version of the language in UL 1981
17.14.2.5		Brings an updated version of the language in UL 1981
25	Info	**Maintenance and Service**
25.3	Info	**Signals from systems other than central-station fire-alarm systems**
25.3.1		Harmonizes the actions that are taken when processing signals from mercantile and bank burglar alarm systems with UL 681.
25.4	Info	**Disruption of communications**
25.4.1		References Section 50
36	Info	**Closing and Malfunctions During Closing**
36.3		Revised the language for clarification that a record of the event must be held.
36.4		Revised the language for clarification that a record of the event must be held.
37	Info	**Alarms and Unauthorized Openings**
37.6	Info	**Unwanted alarms**
37.6.4		Revised to clarify when the inspection is to take place
37.7	Info	**Signals from systems other than central-station burglar-alarm systems**
37.7.1		Harmonizes the actions that are taken when processing signals from mercantile and bank burglar alarm systems with UL 681.
37.8	Info	**Disruption of communication**
37.8.1		References Section 50
45	Info	**Signal Processing**
45.1		References CP-01 & harmonizes the actions that are taken when processing signals from mercantile and bank burglar alarm systems with UL 681

CLAUSE	VERDICT	COMMENT
46	Info	**Retransmission**
46.4		References Section 50
47	Info	**Disruption of Communication**
47.1		References Section 50
48	Info	**Records**
48.3		Details the content of alarm records
50	Info	**Reaction to Communications Disruptions**
50.1	Info	**Disruption of Communication with Public Safety Organizations**
50.1.1		Describes the actions that are to be taken when a PSAP is no longer able to receive notifications.
50.2	Info	**Disruption of a communication channel**
50.2.1		Describes the actions that are to be taken when the central station can no longer receive signals from protected properties.
		The following changes reflect the September 22, 2016 revision
17	Info	**Alarm Monitoring Automation Systems**
17.6	Info	**Minimum MEW factor requirements**
17.6.2	info	**MEW Factor 1,000 to 9,999**
17.6.2.2		The computer system described in 17.6.1.2(a) shall be capable of resuming signal processing within 90 seconds of a single fault of critical system components. Examples of typical critical components include a power supply, computational/CPU hardware node, data storage hardware component, software/operating system instance, or similar critical component. ~~duplicated in one of the following ways:~~ ~~a) The computer and related networking components, and power supply supplies as well as the operating system, program languages, all data and alarm-monitoring software shall be duplicated in a separate hot, "back-up" computer system that is able to process signals within 90 seconds of the primary system becoming impaired; or~~ ~~b) A fault tolerant computer system in which every component in the fault tolerant system, including the software, power supply and each cooling fan, is duplicated; or~~ ~~c) A minimum of two computers of equal capacity configured in a cluster (See 5.2.9) with the use of software programs that supervise the proper operation of each computer in such a manner that signals would be presented to each;~~

CLAUSE	VERDICT	COMMENT
		~~Utilizing software to create a virtual machine (VM) or similar techniques shall not be used as a substitute for the requirement of having separate computer systems described in (a) and (c).~~
16.6.2.2.1		**New clause added;** If hardware virtualization techniques are used as part of a method to provide redundancy or failure tolerance: a) The automation system shall be guaranteed sufficient resources within the system provisioning; b) Additional partitions shall not have a higher priority than the automation system; and c) The second or failover automation system shall reside on a separate whole hardware platform that has sufficient capacity to provide the same or greater alarm monitoring performance as the primary hardware.
17.6.2.5		~~The processing of signals shall be switched between the primary and back-up computer systems at a minimum of every thirty consecutive days.~~ The system shall be configured so that redundant or failover components are engaged and actively processing signals at least once in every consecutive thirty day period. ~~Exception: Should the Central Station choose to implement a "tertiary system", 17.6.2.5 does not apply when a "tertiary automation system" is in place as described in 17.6.3.~~
17.6.2.10		Exceptions to the previous MEW requirements – None~~. if the central station decides to implement the tertiary system (See 17.6.2.5, Exception), then the requirements for manual processing of signals in 17.6.1.2 (d), (e) and (f) are not required.~~
17.6.3	Info	**MEW Factor 10,000 to 99,999**
17.6.3.2		~~The computer system described in 17.3 shall be duplicated in a separate third "Tertiary System" computer system of equal or greater size, including on-line systems use for the storage of alarm monitoring automation system data or a storage system that complies with RAID-1 (See 5.2.44) or higher, with automatic failover capability.~~ Within 6 hours of the fault described in 17.6.2.2, the computer system shall be returned to a state where it is capable of resuming signal processing within 90 seconds of a second fault in a surviving power supply, computational/CPU hardware node, data storage hardware component, software/operating system instance, or similar critical component that would affect the 90 (or 30) second switchover.

CLAUSE	VERDICT	COMMENT
17.6.3.3		~~As the MEW factor increases, central stations may create clusters (See 5.2.9 or pairs of computers to form either the primary and secondary computers described in 17.5.3 (b), (c), or (d) as a way of maintaining the signal processing throughput described in 17.4.3. When clustering is used, the tertiary system may be formed in any of the following ways:~~ ~~a) A single tertiary system of sufficient size to process all of the signals for a single cluster;~~ ~~b) A single tertiary system that complies with 17.7 and is of sufficient size to process all of the signals from all of the computers in every cluster; or~~ ~~c) A tertiary system than complies with 17.7 and is of sufficient size to process all of the signals from the cluster handling the largest number of signal processing.~~ The facility or facilities housing the automation system shall comply with all local electrical safety code requirements addressing voltage surge and lightning protection.
17.8	Info	**Redundant site options**
17.8.2		The redundant site or sites shall be operated by any of the following: a) The central station company that operates the central station ~~which houses the primary and secondary computer systems~~ (see 5.2.7) from which central-station services are primarily delivered; or; b) ~~A different central station with which a contract or written agreement that complies with 17.8.3 exists; or~~ A hosted central station services provider with applicable services in compliance with UL 827A Outline of Investigation for Hosted Central Station Services, with which a contract or written agreement that complies with 17.8.3 exists; or c) ~~The provider of the alarm monitoring software that is used by the central station and~~ A different central station with which a contract or written agreement that complies with 17.8.3 exists.
17.8.3		If a central station company chooses to ~~locate the tertiary system~~ partner with another entity in compliance with 17.8.2 (b) or (c), a contract or written service agreement ~~establishing minimum requirements as outlined below~~, shall be in place that establishes: ~~a) The operator of the redundant site shall provide sufficient personnel, work stations, and related equipment to handle the volume of signal activity typically received by the central station;~~ ~~b) The operator of the redundant site shall provide a written report at least once every 24 hours summarizing the activity received and any events that require action on the part of the central station;~~ ~~c) Where the operator of the redundant site is another central station, they shall have current information for contacting the providers of technical support for the automation system and computer equipment; or~~

CLAUSE	VERDICT	COMMENT
		~~d) A written notice at least 30 calendar days in advance if either party may wish to cancel or amend the contract or agreement.~~ a) How minimum requirements as outlined below will be provided, b) The specific technical performance levels promised (Service Level Agreement); and c) Remedies for performance failures.
17.8.3.1		***New clause added;*** The contract or service agreement shall include a requirement for a written notice of at least 30 calendar days in advance for either party to cancel or amend the contract or agreement.
17.8.3.2		***New clause added;*** The Service Level Agreement specified in 17.8.3 b) shall address or include, as applicable, provision for: a) Quantifying and providing sufficient communication bandwidth, personnel, work stations, and related equipment to handle the volume of signal activity typically received by the contracting central-station company; b) Delivery of a written report to the contracting central-station company at least once every 24 hours summarizing the activity received and any events that require action on the part of the contracting central-station company; c) Advance notification of unavailability due to scheduled maintenance activities d) Immediate notification of unscheduled, unplanned unavailability and follow-up notification of availability restoration e) Current information needed to contact the providers of technical support for the automation system and essential computer equipment
		The following changes reflect the April 18, 2018 revision
7	Info	**Physical Protection**
7.8		***New clause added;*** Any exterior opening, other than a door, that leads into the operating room from an area that is not controlled by the station, and which is: a) Greater than 96 square inches (619 cm2) with the smallest dimension exceeding 6 inches (152 mm); and b) Is within 6 feet (1.82 m) of grade level or a working surface that may be reached through the use of fixed-in place ladders, stairs, or similar fixtures that facilitate climbing, c) Shall be protected in manner that restricts ready access through the opening.

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		d) Restrictions may be achieved through such methods as the use of; 1) Heavy metal bars or screening installed over openings; or 2) Reinforcement of glazing with framed impact resistant polymeric film or sheet materials designed and installed for such purpose; or 3) Layers of complementary security controls which restrict access to the opening and which are monitored in the operating room by video cameras or other electronic security means; and the like.
8	Info	**Fire Protection**
8.5	Info	**Unoccupied area protection**
8.5.1		***New clause added;*** All areas of the station (See 1.11) that are not continuously occupied by alarm service company personnel shall be protected by any of the following systems: a) An automatic fire extinguishing system, b) A fire suppression system, or c) An automatic fire detection system.
8.5.2		***New clause added;*** Any of the systems referenced in 8.5.1 and used in such areas shall be connected to a fire alarm system installed in accordance with National Fire Alarm and Signaling Code, NFPA 72, and shall annunciate alarm, supervisory, and trouble conditions in the operating room.
25	Info	**Maintenance and Service**
25.2	Info	**Alarm, supervisory, and trouble signals**
25.2.1		~~Service for an alarm system shall be~~ The monitoring of central station fire alarm systems (See 5.4.2) shall include the retransmission of alarm signals to the communication center (such as a Public Safety Answering Point) serving the protected property, and the dispatch of runners where required, the notification of the receipt of supervisory signals, and response to the receipt of trouble signals that indicate parts of the system are not capable of operating as intended in accordance with the requirements of the National Fire Alarm and Signaling Code, NFPA 72.
25.2.1.1		***New clause added;*** The monitoring of central-station fire alarm systems (See 5.4.2) and the subsequent receipt of alarm, supervisory and trouble signals, that indicate an alarm condition and/or parts of the system are not capable of operating as intended in accordance with the requirements of the National Fire Alarm and Signaling Code, NFPA 72 shall result in:

CLAUSE	VERDICT	COMMENT
		a) Alarm Signals: The retransmission of alarm signals to the communication center (such as a Public Safety Answering Point); b) Supervisory and Trouble Signals: The dispatch of runners where required and the notification of the receipt of supervisory signals, and response to the receipt of trouble signals that indicate parts of the system are not capable of operating as intended in accordance with the requirements of the National Fire Alarm and Signaling Code, NFPA 72.
25.2.1.2		***New clause added;*** The delivery of monitoring services may be conducted manually or through the use of an alarm monitoring automation system that is configured in compliance with Section 17. The use of an automation system enables the implementation of an automated process that confirms the receipt of the actions described in Table 25.1, when known events such as the receipt of periodic check in signals, or supervisory or trouble signals indicating the system is not capable of operating as intended are received.
Table 25.1		***New table added;*** **FA Systems** **Signals that may be handled by an automated process** **(Option to reach an operator shall always be provided)** See standard for details.
34	Info	**Burglar-Alarm Protection Service**
34.4		***New section added;*** **Monitoring central station burglar alarm systems**
34.4.1		**General**
34.4.1.1		The monitoring of central station burglar alarm systems (see 5.3.3) includes: a) The supervision of opening and closing signals (see 5.2.59) as described in Sections 35 and 36; b) Initiation of alarm verification and/or runner response when alarm signals or communication failures are received as described in Section 37; and c) Response to the receipt of trouble signals or notifications indicating parts of the system are not capable of operating as intended.

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34.4.1.2		The delivery of monitoring services may be conducted manually or through the use of an alarm monitoring automation system that is configured in compliance with Section 17. The use of an automation system enables the implementation of an automated process that confirms the receipt of the actions described in Table 34.3 when known events such as scheduled or properly coded opening and closings, or the receipt of periodic check-in signals, or trouble signals indicating the system is not capable of operating as intended, are received.
Table 34.3		**BA Systems** **Signals that may be handled by an automated process** **(Option to reach an operator shall always be provided)** See standard for details.
34.4.2		**BA System is Disarmed**
34.4.2.1		(1) Late to Open A. Subscriber shall acknowledge the event. a) The identity of the subscriber can be either name or verified code. b) The subscriber shall respond with intended action. c) If no one on the call list answers, but at least one message was left, event is concluded.
34.4.3		**BA System is Disarmed**
34.4.3.1		(2) Late to Close or (5) Tamper A. Subscriber shall acknowledge receipt and will attend. a) The identity of the subscriber shall be verified by name & code. b) The subscriber shall respond with intended action. c) If no one on the call list answers, it shall be called again in one hour. d) When the systems closes or the subscriber intends to stay open, event is concluded.
34.4.3.2		(3) Late Timer Test or (4) Communications Fail A. Subscriber shall acknowledge receipt and will attend. a) The identity of the subscriber can be either name or verified code. b) The subscriber shall respond with intended action, event is concluded.
34.4.3.3		(6) AC Fail, (7) Low Battery, or (8) Supervisory A. Subscriber shall acknowledge receipt and will attend. a) The identity of the subscriber can be either name or verified code. b) The subscriber shall respond with intended action, event is concluded.

CLAUSE	VERDICT	COMMENT
34.4.3.4		(9) Communications Fail to PSAP or (10) Alarm Channel A. Subscriber shall acknowledge the event. a) The identity of the subscriber can be either name or verified code. b) The subscriber shall respond with intended action. c) If no one on the call list answers, and/or only messages left, calling shall restart in 8 hours.
35	Info	**Openings and Closing**
35.3	Info	**Openings and closing with a schedule**
35.3.3		For systems that use a defined schedule, if, in a 3-month interval, 80 percent or more of the openings for a system occur more than 30 minutes outside of the scheduled time, the schedule shall be amended, with the subscriber's concurrence to reflect the routine opening times. The verification of the receipt of the subscriber's name and identification code shall be part of the record of the change.
		CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements.