

NENA PSAP Site Characteristics Information Document

ABSTRACT: This Information Document is a guide for PSAP (Public Safety Answering Point) managers and for the designers, manufacturers, and installers of equipment that process calls such as Call Handling Systems (CHS) and legacy PSAP CPE (Customer Premises Equipment). It identifies the required and desirable characteristics of the PSAP facilities that house the supporting CHS and CPE.

NENA-INF-024.2.1-2026

NENA Board of Directors Approval:
Next Scheduled Review Date:

October 14, 2026
October 14, 2031

Prepared by:

National Emergency Number Association (NENA) Agency Systems Committee, Document Review Working Group

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EXECUTIVE OVERVIEW

This Information Document is a guide for PSAP (Public Safety Answering Point) managers and for the designers, manufacturers, and installers of equipment that process calls such as Call Handling Systems (CHS) and legacy PSAP CPE (Customer Premises Equipment). Most of the material in this document applies to equipment hosted in both E9-1-1 and NG9-1-1 PSAPs. It identifies the required and desirable characteristics of the PSAP facilities that house the supporting CPE. "Supporting CPE" includes all the equipment and facilities that support PSAP operations except for call taker or dispatch related equipment that is located in the workspace. Supporting CPE is often located in a "back room" and is sometimes referred to as "backroom" equipment.

This document is not intended to describe the optimum environmental conditions of the PSAP's workspace. Additionally, this document is not intended to provide complete design specifications for PSAP equipment. Adherence to these recommendations will not ensure the quality of the performance of the CPE. This document should not be used as an exclusive procurement specification.

This document is published as part of NENA's continuing efforts to improve the understanding of the issues shared by the various participants who are responsible for the effective operation of the 9-1-1 system. The environment where CPE resides is critical to the operation of the equipment. The purpose of this Information Document is to identify the minimum recommendations as well as desirable recommendations for PSAP sites in place today as well as to identify recommendations for PSAP's beginning new construction or remodeling. This document contains NENA's recommendations for PSAP site design.

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- Utilization of advances in the state of technical arts,
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This document is an information source for the voluntary use of public safety communication centers, such as 9-1-1 Public Safety Answering Points (PSAPs). It is not intended to be a complete operational directive.

It is possible that certain advances in technology or changes in governmental regulations will precede these revisions. All NENA documents are subject to change as technology or other influencing factors change. Therefore, this NENA document should not be the only source of information used. NENA recommends that readers contact their 9-1-1 Authority and 9-1-1 SSP representative to ensure compatibility with the 9-1-1 network, and their legal counsel to ensure compliance with current regulations.

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REASON FOR ISSUE/REISSUE

NENA reserves the right to revise this document. Upon revision, the reason(s) will be provided in the table below.

Document Number	Approval Date	Reason For Issue/Reissue
NENA 04-502	March 31, 2004	Initial Document
NENA-INF-024.2-2018	February 14, 2018	This revision updates references to external documents and applies to the current NENA Information Document template and document numbering scheme.
NENA-INF-024.2.1-2026	October 14, 2026	The document was reviewed in its entirety and revisions applied as deemed necessary.

1 SITE PREPARATION RECOMMENDATIONS AND GUIDELINES

1.1 General Recommendations and Guidelines

The customer should inform its architect or contractor of this section of the document and ensure that the recommendations are met and that applicable local ordinances and regulations are followed. This Information Document applies to permanent structures, i.e. not to any trailers. Any local building codes may override related recommendations within this document.

It is strongly recommended that the customer provide its contractor(s) with a checklist(s) similar to the [Appendix A—PSAP On-Premise Equipment Room Checklist Example](#) and the [Appendix B—Electrical Contractor Checklist Example](#). The Checklists can then be signed and dated by the respective contractors or delegated authority as a permanent record of the customer's preparation.

The 9-1-1 equipment should have a program for service monitoring and recovery plan in the event of a service outage. Items to consider in the plan include but are not limited to:

- Transfer of primary power to an alternate power source.
- Resilient network connections to service provider(s).
- Transfer of 9-1-1 service to an alternate PSAP.
- Handling of 9-1-1 equipment alarms.

Next Generation 9-1-1 is a complex system with a need to meet high-availability requirements. The customer and their providers are encouraged to review the guidance provided in the *NENA NG9-1-1 Operational Diversity and Redundancy Information Document, NENA-INF-047 [4]*, as it describes additional network and power needs beyond this document.

1.2 Rack Mounting, Physical Layout, and Clearance for Communications Equipment Area

All PSAP equipment that is installed in the equipment room, such as routers, switches, session border controllers, and security appliances, should be installed in industry standard 19 inch equipment racks or enclosures designed to support telecommunications grade hardware. These racks should provide sufficient structural stability to support current equipment as well as reasonable future expansion, while also incorporating appropriate vertical and horizontal cable management to maintain proper bend radius, strain relief, and long term serviceability. Network devices should be mounted to ensure unobstructed access to both front and rear panels, supporting routine maintenance, operational monitoring, and emergency intervention. Adequate clearance should be preserved around all rack faces to maintain proper airflow consistent with the manufacturer's cooling design, typically relying on a front to back ventilation path. This spacing also facilitates organized cable routing, labeling, patching, power distribution, and the implementation of required grounding connections essential for reliable 9-1-1 system performance.

Racks and enclosures should be positioned to maintain a clean and organized layout within the equipment room, ensuring compatibility with the environmental and spatial recommendations already described for PSAP CPE facilities. The installation environment should support secure

anchoring, dust mitigation, and a professional equipment layout that aligns with recognized telecommunications infrastructure standards. The physical arrangement of network elements should also support ongoing PSAP operational requirements such as redundancy, ease of expansion, unobstructed service access, and clear labeling of all elements (i.e., components, cables, connections, power, etc.)

The recommendations in this section are reinforced by the *NENA NG9-1-1 PSAP and ECC Specifications for the NENA i3 Solution*, NENA-STA-023 (draft) [5], technical specifications which were designed to work with the specifications in this document, to identify the need for reliable IP based connectivity, and to ensure proper integration of network elements within the PSAP environment. These specifications of NENA-STA-023 [5] highlight that all components supporting NG9-1-1 signaling and media exchange must be deployed on infrastructure that adheres to appropriate physical, electrical, and environmental installation practices consistent with the needs of modern IP based public safety communications.

Additional information on the recommendations made in this document can be found in Telecommunications Industry Association (TIA) *Commercial Building Telecommunications Cabling Standards Version D*, TIA-568 (structured cabling) [6], TIA *Telecommunications Pathways and Spaces Version E*, TIA-569 (pathways & spaces) [7], and TIA *Telecommunications Infrastructure Standard for Data Centers Version B*, TIA-942 (data center infrastructure) [8].

Workspace around the equipment should allow for safe access to all equipment and in accordance with local building and fire codes.

1.3 Structural

The site floor condition should be checked before installing 9-1-1 equipment. Questionable floor construction may require moving equipment to another location or reconfiguring the equipment package. The floor should be of sufficient strength to be capable of supporting equipment for current install and future growth and in compliance with state and local building codes.

The size of the 9-1-1 equipment location should be sized to accommodate the planned equipment appropriate access space. However, the actual size recommendations will be determined and agreed upon during the equipment provider's site visit. Any desks or tables used for 9-1-1 equipment should be of a design that cannot be easily overturned, i.e. low profile, wide footprint, etc.

1.4 Equipment Room Environmental

The ambient temperature and relative humidity in the 9-1-1 equipment area should be maintained in a range of 60 to 80 degrees Fahrenheit with relative humidity in the range of 40 to 60 percent [9].

The 9-1-1 equipment location should be an air-conditioned space, with adequate airflow and no condensation. Information regarding air conditioning power needs can be found in [Section 1.10 Alternating Current Power](#).

9-1-1 equipment should not be installed in rooms in which a major heating source (i.e., boiler room, furnace room) can affect the ambient room temperature significantly.

9-1-1 equipment should not be installed in a flood-prone space or area with high risk of water damage or damage from equipment room access doors.

To avoid contamination by any process or condition involving silicone based lubricants, inks, dust, solvents, or other airborne contaminants, the 9-1-1 equipment should not be located in the same room with copying machines, asbestos materials and/or wet cell batteries.

NOTE: Vendors may have additional requirements for their equipment.

1.5 Electromagnetic Interference

The 9-1-1 equipment needs to be protected from electromagnetic interference and should be located in an area that meets the following objectives:

- Interference from electromagnetic fields should be less than 2 volts per meter and frequencies from 10 kHz to 1 GHz.
- No interference from unlicensed or licensed radio communication equipment, such as equipment covered by Federal Communications Commission (FCC) Title 47 CFR, Part 15 [10] or Part 90 [11].
- No interference from electromagnetic noise, such as might be generated by electric motors with commutators, as used in systems like HVAC (Heating, Ventilation, and Air Conditioning), elevator motors, etc.

1.6 Acoustics

The sound levels in the 9-1-1 equipment area should comply with Occupational Safety and Health Administration (OSHA) requirements and applicable state requirements.

1.7 Lighting

A light intensity of 30 to 100 foot-candles should be provided around the 9-1-1 equipment cabinet for maintenance activities. Emergency lighting [12][13] should be available in case of power outage at the site.

1.8 Fire Protection

The customer should provide chemical fire protection equipment at the 9-1-1 equipment location. Water or fire extinguishers not rated for use on electrical fires should not be used.

Fire rating in accordance with applicable fire codes, of wall, floor, and ceiling penetrations required for the 9-1-1 equipment installation, is recommended [14][15].

Equipment should not be located under fire suppression sprinklers. If sprinklers must be located with the equipment due to fire or building code requirements, the sprinkler heads should be caged and deflected to not allow water spray on the electronic equipment. The heads should be rated for high temperature.

1.9 Electrical

For satisfactory performance of the 9-1-1 system, the customer should arrange for the outside plant distribution cable entrance to be checked for proper electrical protection as defined by your local service provider or electrical engineer.

Protection considerations for a specific cable installation should include all the exposures encountered, whatever the source, and the protection measures should be coordinated to reduce the effects of these exposures. Protection from lightning requires bonding and grounding of all metallic sheath components and metallic strength members, and the application of protectors to metallic pairs at specified locations, to be determined by an electrical engineer. Power protection requires a fusible link in addition to the application of protectors and bonding and grounding. Fusible links, however, are not effective for lightning protection or sneak current protection and are not a substitute for protectors.

An electrical engineer should determine the proper spacing between power and telephone facilities. Should power contacts occur, the design should provide for paths to ground on the telephone plant sufficient to prevent excessive voltage rise. This path should conduct enough power line fault current to ground to rapidly operate fuses or breakers on the faulted power line or to cause line conductors to open at the fault point.

Low impedance paths to ground are an effective aid for lightning mitigation and are achieved by:

1. Establishing and maintaining continuity of metallic cable components (shield, strength member, vapor barrier) in cables.
2. Bonding the metallic sheath components and strength members of cables to metallic support strands as required.
3. Bonding the metallic sheath components, strength members, and strands of separate cables together.
4. Proper grounding at buildings.

Telecommunications cables entering a PSAP location should have all metallic components, such as the shield, strength member, or vapor barrier grounded.

All working and non-working metallic telecommunications pairs exposed to power and/or lightning that are terminated in the building should have protectors.

The National Fire Protection Association (NFPA) National Electrical Code (NEC) [16], Articles 770 and 800, covers the installation of telecommunications facilities at customer locations.

The NEC [16] requires the bonding of all available electrodes into a grounded electrode system and the preferential choice for grounding the electric power is to any point on that system. The system consists of a bonded assembly of all the following electrodes if available at the premises or structure:

1. The metal frame of a building where effectively grounded.
2. Concrete encased electrodes as defined by the NEC.
3. A buried ground ring as defined by the NEC.
4. A metal underground public or private water pipe with at least 10 feet of metal pipe in direct contact with the earth.

The first choice for a station protector ground is the nearest accessible location on the power grounding system. For new construction, the NEC [16], in Article 250 which discusses grounding and bonding, requires that an accessible means be provided (as part of the power

service installation) for bonding and grounding other systems (such as the telephone) to the power ground. This may consist of the following:

1. A metallic service entrance conduit.
2. A power grounding conductor.
3. An external connector provided on the electric power service equipment or service raceway.

The power grounding system for grounding the protector should result in the shortest run of grounding conductor.

The NEC [16] requires that the power and telephone grounds be bonded. This is accomplished automatically when the station protector is grounded to the power grounding system. Where the power ground is inaccessible or the power is not grounded, the customer should be notified that an unsafe condition might exist.

It is desirable to have external pipes labeled within the site. Gas pipes should not be used as a grounding electrode or bonding conductor for any component.

The power and protector grounds should be common.

1.9.1 Grounding and Bonding

Proper grounding and bonding of PSAP equipment must follow the requirements of NEC Article 250 [16], which provides the rules for establishing safe grounding and bonding practices within electrical installations, including definitions, acceptable grounding electrodes, conductor sizing, and methods of grounding and bonding to ensure overcurrent protection and lightning induced voltage control. In parallel, the Telecommunications Industry Association (TIA) *Telecommunications Bonding and Grounding (Earthing) for Customer Premises*, ANSI/TIA-607 [17], standard should be applied to ensure a structured and performance optimized telecommunications grounding and bonding system; ANSI/TIA-607 [17] defines the telecommunications grounding architecture and ensures proper interconnection with the building's NEC [16] compliant electrical grounding system while emphasizing that its recommendations do not override national or local electrical codes. When evaluating compliance, PSAP designers and integrators should verify that all bonding conductors, grounding busbars, and backbone conductors meet the NEC's safety critical requirements as well as the topology, material, continuity, and performance expectations outlined in ANSI/TIA-607 [17].

According to the ANSI/TIA-607 [17] standard, grounding telecommunications equipment solely through an alternating current (ac) power cord does not meet the necessary safety and operational requirements. The standard specifies that information technology equipment must be provided with a supplementary and specific ground path that is separate from and in addition to the required ac or direct current (dc) power ground. A major concern with relying exclusively on the power cord's grounding/bonding wire is that its integrity to ground cannot be easily verified. Therefore, it is desirable for equipment to be connected to the bonding infrastructure in a verifiable "supplementary" manner to ensure reliable operation and protection against electrical disturbances.

1.9.1.1 Critical Site Requirements

The ANSI/TIA-607 [17] standard mentions sites classified as being critical to public safety, including telecommunications dispatch centers. A fundamental requirement of ANSI/TIA-607

[17] is that the external grounding system resistance must be 10 ohms or less, preferably 5 ohms or less, to support the reliable electronic transport of information. This infrastructure is designed to protect sensitive 9-1-1 equipment from electrical disturbances caused by lightning, power faults, and [Electromagnetic Interference](#) (EMI).

If the PSAP site is equipped with radio equipment and one or more radio antennas, it is strongly recommended that the site, including the building, the equipment within the building, each antenna and/or antenna support structure and other external and internal objects are equipped with a grounding system and lightning protection that, at minimum, conforms with the applicable requirements for radio sites. Additional grounding requirements for radio tower and antenna, per ANSI/TIA-607 [17], can be found in [Section 1.9.1.5 Towers](#).

1.9.1.2 Infrastructure Hierarchy

The bonding infrastructure at ANSI/TIA-607 [17] begins at the electrical entrance facility ground. Key components include:

- Primary Bonding Busbar (PBB): The central attachment point and dedicated extension of the building's grounding electrode system.
- Telecommunications Bonding Backbone (TBB): A conductor used to interconnect all local busbars back to the PBB to equalize potential differences across the site.
- Secondary Bonding Busbar (SBB): Located in distributor rooms or computer rooms, serving as the local connection point for telecommunications equipment.
- Telecommunications Equipment Bonding Conductor (TEBC): The conductor that directly connects individual equipment racks and cabinets to the PBB or SBB.

1.9.1.3 Operator Workstation Protections

ANSI/TIA-607 [17] also addresses the unique needs of operator-type equipment positions, such as 9-1-1 dispatch workstations. Because dispatchers often wear headsets and access keyboards continually, bonding measures are essential to control Electrostatic Discharge (ESD) and minimize potential differences at the workstation. These workstations should be bonded to ground to protect personnel and minimize the effects of internal or external electrical disturbances.

1.9.1.4 Computer Rooms, Cabinets and Racks

Computer rooms housing 9-1-1 call processing servers typically require a supplementary bonding network, such as a mesh-bonding network (mesh-BN), to provide a high level of equipotential bonding for high-frequency electronics.

1.9.1.5 Towers

In case the PSAP site includes a radio tower or antenna, the installation should meet specific external grounding requirements, including a ground ring and proper bonding of transmission lines to a tower bonding busbar.

1.9.1.6 Administration and Maintenance

To maintain the integrity of the 9-1-1 system, all bonding conductors should be properly labeled to warn against accidental removal. Administration involves the documentation and identification of all system components to support future installation moves or additions.

1.10 Alternating Current Power

PSAPs should utilize redundant power sources and circuits for all critical infrastructure that supports any aspect of the 9-1-1 center. Dual power supplies, and/or dual power circuits, provide the ability for the PSAP to manage the risk of power outages. Additionally, decisions on the design of the telecommunicator positions have implications to the AC power design of the backroom.

AC surge protection should be provided at all circuits and/or electrical outlets providing power to customer owned equipment, such as workstations, monitors/displays, and printers that interface with 9-1-1 equipment.

All customer-provided AC power circuitry should comply with the NEC [16] and local codes.

The electrical load center should be provided as follows:

1. The main 9-1-1 circuit breaker box should be wired from the commercial AC load center through an Uninterruptible Power Supply (UPS) with an appropriately sized circuit.
2. The feeder breaker should be designated "9-1-1 Panel."

The circuit breaker box should be dedicated and used exclusively for 9-1-1 equipment. In the event that this exclusivity is unavailable, the individual 9-1-1 circuits should be tagged as such.

All UPS supplied outlets used for 9-1-1 should be labeled with circuit ID "For 9-1-1 use only".

The conduit serving the 9-1-1 circuit breaker box should have a permanent tag attached that identifies the physical location of the serving load center. Example: From Panel A in Room I04.

The "serving load center" for the 9-1-1 circuit breaker box should be connected to the local emergency generator bus, to provide continued electrical service in the event of a commercial power failure.

To prevent 9-1-1 equipment failure caused by the loss of commercial power source, a dedicated UPS system is recommended. The UPS should provide a minimum of 15 minutes of emergency power to be used as a transitional power source until generator power can be brought on-line for full functionality of all equipment requiring a power source such as, but not limited to, the following listed elements of a 9-1-1 system:

1. Telecommunicator positions (telephone sets, monitors/displays, etc.)
2. Any call routing system components such as:
 - a. Automatic Number Identification (ANI) and Automatic Location Identification (ALI) controllers
 - b. ALI link modems and network interfaces
 - c. Network connectivity equipment (i.e., modems, gateways, etc.)
 - d. Locally hosted Next Generation Core Services (NGCS) components
3. Telephone common equipment
4. Telecommunications Device for the Deaf (TDD)/Teletypewriter (TTY) devices

5. Recording devices
6. Network equipment
7. Private Branch Exchange (PBX), key systems and radio equipment serving emergency and administrative non-emergency communications
8. Emergency lighting for equipment room
9. Air conditioning units
10. Any other devices necessary to receive, process and/or reroute 9-1-1 calls and other critical circuits.

The UPS should be equipped with a manual bypass switch to allow maintenance.

Each receptacle serving 9-1-1 equipment should be dedicated to 9-1-1 equipment. Inductive loads (like personal heaters and motorized equipment) cannot be plugged into UPS circuits along with 9-1-1 equipment.

The electrical outlets should be wired from the 9-1-1 circuit breaker box with conductors sized per NEC [16] or local prevailing codes. Label the dedicated E9-1-1 circuit breaker with the location of the circuit being served.

Extension power cords should not be used in permanent installation for power to 9-1-1 equipment. When power strips are used, the total load should not exceed the capacity of the over-current protection device for the circuit.

Each answering position should have, at the minimum, a duplex outlet for every device requiring a power source. Different applications may require additional outlets.

1.11 Physical Access

Suitable access should be provided for movement of equipment into and out of the building. A suitable route should be provided, according to local ordinances, for installing cable:

1. From the 9-1-1 equipment location to the call center space where personnel are located.
2. From the cable entry of the building to the 9-1-1 equipment area/room.

The demarcation point should be accessible to the CPE provider or supplier if needed to support the PSAP.

The 9-1-1 equipment location should be secured to prevent access by unauthorized personnel. However, access to CPE provider or supplier installation and maintenance personnel should be provided on a 24-hour basis.

2 RECOMMENDATIONS FOR ADDITIONAL DEVELOPMENT WORK

This document references existing NENA Standards. Additional work may be required as noted below.

2.1 Recommendations for Non-Premise Based Services

2.1.1 Description

The Working Group recommends that an Information Document be created to provide agencies with best practices on non-premise based services for PSAPs. Suggested topics may include minimum security requirements, connectivity, resiliency, etc.

2.1.2 Recommended Assignment

The Working Group recommends the document be developed by a working group within NENA's System Security & Resiliency Committee.

3 ABBREVIATIONS, TERMS, AND DEFINITIONS

See the NENA Knowledge Base (NENAkB) Glossary [1] for a list of terms and abbreviations used in NENA documents. Abbreviations and terms used in this document are listed below with their definitions as they apply to this version of the document. Please be aware that terms and definitions in the NENAkB Glossary may be different than what is shown in this document.

Term or Abbreviation (Expansion)	Definition
NEC (National Electrical Code)	Enforced in all 50 states, National Fire Protection Agency (NFPA) 70 National Electrical Code (NEC) is the benchmark for safe electrical design, installation, and inspection to protect people and property from electrical hazards. https://www.nfpa.org/codes-and-standards/nfpa-70-standard-development/70
PSAP (Public Safety Answering Point)	A physical or virtual entity where 9-1-1 calls are delivered by the 9-1-1 Service Provider.
UPS (Uninterruptible Power Supply)	Provides backup power when the regular power source fails or voltage drops to an unacceptable level.

4 REFERENCES

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- [3] Internet Engineering Task Force. *Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words*. B. Leiba. [RFC 8174](#), May 2017.
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5 APPENDICES

This section contains two sample checklists to be used with this Information Document. These are “PSAP On-Premise Equipment Room Checklist” and “9-1-1 Electrical Contractor Checklist”.

5.1 Appendix A—PSAP On-Premise Equipment Room Checklist Example

Customer _____

Location _____

Table 5-1 PSAP On-Premise Equipment Room Checklist Example

Document Section		Requirement	Compliant	Not Compliant	Not Applicable
1.2	1.	The 9-1-1 Equipment is located in a room:			
		Containing no contaminants or hazardous materials.			
		Having sufficient maintenance area and ceiling clearance.			
		That is dust free.			
		Where floors are clean, dry, level, and free from defects.			
		Free from damaging vibrations.			
	2.	If legacy telecommunications interconnectivity is required, and a backboard is necessary, it should be painted and sealed per local codes.			
	3.	The size of the 9-1-1 equipment location is sufficient to support environmental and maintenance access.			
1.3	4.	The desks or tables used for 9-1-1 equipment are of a design that cannot be easily overturned, i.e. low profile, wide footprint.			
1.4	5.	The proposed equipment room meets the following environment recommendations:			
		Ambient room temperature and relative humidity			

Document Section		Requirement	Compliant	Not Compliant	Not Applicable
		maintained in a range of 16 to 27 degrees Celsius (60 to 80 degrees Fahrenheit) with relative humidity in the range of 40 to 60 percent.			
		The 9-1-1 equipment location is in an air-conditioned space, with adequate airflow and no condensation.			
		The room does not contain a major heat source (i.e., boiler room, furnace room) which could affect the ambient room temperature significantly.			
1.5	6.	The proposed equipment rooms meet the following Electromagnetic Interference recommendations:			
		Interference from electromagnetic fields less than 2 volts per meter in a frequency range of 10 kHz to 1 GHZ.			
		No interference from unlicensed or licensed radio communication equipment. (Refer FCC Part 15 [10] or Part 90 [11]).			
		No interference from electromagnetic noise (HVAC, elevator motors, etc.)			
1.6	7.	The proposed equipment room meets the following acoustic recommendations:			
		The sound levels in the 9-1-1 equipment area comply with OSHA requirements.			
1.7	8.	The lighting in the proposed equipment room meets a light intensity of 30 to 100 foot-candles provided around the 9-1-1 equipment cabinet for maintenance and provides for emergency lighting.			
1.8	9.	If an overhead sprinkler system exists, 9-1-1			

Document Section		Requirement	Compliant	Not Compliant	Not Applicable
		equipment has been protected from water damage.			
	10.	An appropriate type Fire Extinguisher system or unit has been provided.			
	11.	The space is protected with properly rated ceiling, walls, and doors in accordance with local requirements.			
1.9	12.	Suitable routes are accessible for cable and ground wire routing to locations.			
	13.	The outside plant distribution cable entrance has been checked for electrical protection per communications provider standards.			
1.9.1	14.	If the 9-1-1 equipment is located near or connected to radio equipment that is directly connected to an outside antenna, the customer's radio equipment has been reviewed per the CPE provider / supplier recommendation.			
	15.	All bonding conductors, grounding busbars, and backbone conductors meet the NEC's safety critical requirements as well as the topology, material, continuity, and performance expectations outlined in ANSI/TIA-607 [17] have been verified.			
	16.	All bonding conductors are properly labeled to warn against accidental removal.			
1.10	17.	AC power surge protection is provided at all electrical outlets providing power to customer owned equipment, such as displays and printers that interface with 9-1-1 equipment.			

Document Section		Requirement	Compliant	Not Compliant	Not Applicable
	18.	All customer-provided AC power circuitry complies with the NEC [16] and local codes.			
1.11	19.	If Customer provides external equipment (telephone sets, printers, displays, etc.), the demarcation terminal strip has been installed.			
	20.	There is suitable access for movement of 9-1-1 equipment into and out of the building.			
	21.	The 9-1-1 equipment location is secured from access by unauthorized personnel.			
None	22.	Please note any other site-unique items that may affect personnel safety or 9-1-1 equipment reliability.			

Verified By: _____

Date: _____

Title: _____

Instructions: Additional requirements, such as local or state codes and regulations, are listed in the table below. *Citation, No. (question number)*, and *Requirement* are completed by the PSAP or their representative. The vendor or service provider identifies their *Compliance, Non-Compliance*, or if the requirement is *Not Applicable (N/A)*.

Table 5-2 PSAP On-Premise Equipment Room Checklist Additional Requirements

[illegible]

Verified By: _____

Date: _____

Title: _____

5.2 Appendix B—Electrical Contractor Checklist Example

Customer _____

Location _____

Table 5-3 Electrical Contractor Checklist Example

Document Section		Requirement	Compliant	Not Compliant	Not Applicable
1.9.1	1.	All AC receptacles serving 9-1-1 equipment are grounded type receptacles.			
	2.	A point of connection to the PSAP site's earth electrode ground system has been furnished. i.e.: grounding bar.			
	3.	All AC equipment grounding (ACEG) conductors serving receptacles for 9-1-1 equipment meet all applicable codes.			
1.10	4.	The main 9-1-1 circuit breaker box is wired from the commercial AC load center, transformer and UPS with an appropriately sized circuit.			
	5.	The feeder breaker in the load center is designated "9-1-1 Panel".			
	6.	The circuit breaker box is surface mounted to the wall in the 9-1-1 equipment location.			
	7.	The circuit breaker box is dedicated and used exclusively for 9-1-1 equipment.			
	8.	The front panel of the breaker box designated is "9-1-1 CIRCUITS ONLY" (Or where this is not possible the panel is marked "9-1-1 CIRCUITS" and each breaker is individually identified with specific markings).			
	9.	The conduit serving the 9-1-1 circuit breaker box is equipped with a permanent tag that identifies the physical location of the serving load center.			

Document Section		Requirement	Compliant	Not Compliant	Not Applicable
	10.	The "serving load center" for the 9-1-1 circuit breaker box is connected to the local emergency generator bus.			
	11.	If a UPS is provided, the UPS is equipped with a manual bypass switch to allow maintenance.			
	12.	All 9-1-1 AC Electrical circuits are wired from the 9-1-1 circuit breaker box and equipped with:			
	a.	Conductors sized per NEC [16] or local prevailing codes.			
	b.	Dedicated and separate AC circuit breaker for each 9-1-1 equipment circuit.			
	c.	AC receptacle for each 9-1-1 equipment circuit.			
	d.	Non-isolated AC receptacles.			
	13.	No extension power cords for power to 9-1-1 equipment.			
	14.	All AC receptacles are tagged for easy identification, i.e. dedicated 9-1-1 circuit; on UPS or Not; Breaker number; etc.			

Verified By: _____

Date: _____

Title: _____

Instructions: Additional requirements, such as local or state codes and regulations, are listed in the table below. *Citation, No. (question number)*, and *Requirement* are completed by the PSAP or their representative. The vendor or service provider identifies their *Compliance, Non-Compliance*, or if the requirement is *Not Applicable (N/A)*.

Table 5-4 Electrical Contractor Checklist Additional Requirements

[illegible]

Verified By: _____

Date: _____

Title: _____

ACKNOWLEDGMENTS

The National Emergency Number Association (NENA) Agency Systems Committee, Document Review Working Group revised this document.

NENA recognizes the following industry experts and their affiliated organization for their contributions to the revision of this document.

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Nicole Graves, ENP	1Spatial Inc.
Preston Main	Hanover County VA
Sherry Massey, GISP	State of Kansas
Tim Russow, ENP	Ada County, ID

SPECIAL ACKNOWLEDGMENTS

Sandy Dyre, ENP, NENA's Committee Resource Management Team, has facilitated the production of this document through the prescribed approval process.

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