

NFPA[®]

1221

**Standard for the
Installation, Maintenance, and
Use of Emergency Services
Communications Systems**

2019



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NFPA® 1221

Standard for the

Installation, Maintenance, and Use of Emergency Services Communications Systems

2019 Edition

This edition of NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, was prepared by the Technical Committee on Public Emergency Service Communication. It was issued by the Standards Council on May 4, 2018, with an effective date of May 24, 2018, and supersedes all previous editions.

This edition of NFPA 1221 was approved as an American National Standard on May 24, 2018.

Origin and Development of NFPA 1221

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, dates back to 1898. Originally, it was part of a general standard on signaling systems, but the material on municipal fire alarm systems was separated from the general standard in 1911. This standard has been revised and reissued in editions dated 1904, 1911, 1926, 1934, 1940, 1941, 1946, 1948, 1949, 1950, 1952, 1954, 1955, 1956, 1962, 1963, 1964, 1967, 1973, 1975, 1978, 1980, 1984, 1988, 1991, 1994, 1999, 2002, and 2007.

The 1999 edition of NFPA 1221 was a result of very hard work by committee members, especially the previous chairman, Evan E. Stauffer, Jr. The goal of the committee was to completely rewrite the standard to reflect an emergence of joint communications centers, the increase in technology-based information systems that assist users in both the communications center and the field of operations, and the role communications play in emergency scene operations within the Incident Command System. To reflect the fact that NFPA 1221 applies to all emergency responders, not just the fire service, the title was changed from *Standard for the Installation, Maintenance, and Use of Public Fire Service Communication Systems* to *Standard for the Installation, Maintenance, and Use of Emergency Communication Systems*.

The 2002 edition of this document continued to enhance the capabilities of personnel assigned to communications centers as well as the interoperability of systems. Because technology is continually changing, committee members began to assess potential changes to the next edition of this standard. It was recognized that it is incumbent on both users and enforcers of this standard to understand the impact of the standard, both in the area of service delivery and in the safety of those emergency response personnel delivering services.

Competing interests and priorities in a communications center need to be addressed by the authority having jurisdiction to develop standard operating procedures on how calls for service are processed, dispatched, and tracked. The mission of the communications center should be to serve as a conduit between those requesting services and those providing the services. This standard with its current revisions provides the requirements to accomplish that mission.

The 2007 edition of NFPA 1221 was a complete revision incorporating the requirements of the *Manual of Style for NFPA Technical Committee Documents*. As part of the 2007 revision, the committee restructured several chapters and added a new chapter on data network security and several new sections. Subsequently, all chapters were renumbered to accommodate those changes. The entire document was reviewed and editorially updated to clarify requirements and ambiguous language. In addition, the title of the document was again changed, to *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*.

The 2010 edition of NFPA 1221 added requirements to include an emergency fire plan to safeguard personnel and minimize disruption of vital public safety communications. New communication centers and the buildings in which they are located were now required to be

protected from the approach of unauthorized vehicles or to have the building designed to be blast resistant. The committee also addressed the need for reliable in-building tactical emergency communications by developing performance requirements for two-way radio communication enhancement systems.

The 2013 edition of NFPA 1221 added a section on retroactivity that allowed the authority having jurisdiction to require the application of any provision of the document. The committee also addressed an important alarm processing issue. NFPA staff had been receiving frequent calls from emergency services about alarm processing times that exceeded the time allotted in the standard. These alarm calls required more time to process because dispatchers and call takers were required to gather additional information before dispatching the appropriate resources. The committee addressed the issue by including six categories of calls that require additional time to process within the standard.

The 2016 edition of NFPA 1221 included requirements regarding two-way radio communications enhancement systems and pathway survivability from *NFPA 72®*, *National Fire Alarm and Signaling Code®*, that the committees of both standards felt were more appropriate to NFPA 1221. Additionally, call processing times were revisited, resulting in a change to the emergency call processing timeline in the alarm processing section to include verification. The change addressed improvements to the technologies whereby telecommunicators receive emergency calls and the time it takes to verify the location of the emergency before processing. A requirement that two telecommunicators be on duty in the communications center at all times was another change made to the 2016 edition. Two additional categories of calls requiring additional time to process at the public safety answering point (PSAP) also were added.

For the 2019 edition, the committee made a global change in using the word *event* instead of *alarm* to recognize the many ways calls for service are processed by emergency communications centers. The committee updated extracts and definitions for the revised document. The committee evaluated call processing time benchmarks and updated as appropriate. Multi-line telephone system challenges were addressed in response to a tentative interim amendment (TIA) issued for the 2016 edition. Requirements regarding two-way radio communications enhancement systems were changed to incorporate the TIA filed for the 2016 edition and eliminate the need for pathway survivability for antenna cables. The committee addressed data security needs for communication systems.

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Committee Scope: This Committee shall have primary responsibility for documents relating to the operation, installation, and maintenance of public emergency services communications systems.

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2019 Edition

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Information on referenced publications can be found in Chapter 2 and Annex C.

Chapter 1 Administration

1.1 Scope.

1.1.1 This standard shall cover the installation, performance, operation, and maintenance of public emergency services communications systems and facilities.

1.1.2 This standard shall not be used as a design specification manual or an instruction manual.

1.2 Purpose. The purpose of this standard shall be as follows:

- (1) To specify operations, facilities, and communications systems that receive events from the public
- (2) To provide requirements for the retransmission of such events to the appropriate emergency response agencies
- (3) To provide requirements for dispatching of appropriate emergency response personnel

- (4) To establish the required levels of performance and quality of installations of emergency services communications systems

1.2.1 Public fire alarm systems and fire alarm systems on private premises from which signals are received directly or indirectly by the communications center shall be in accordance with NFPA 72.

1.2.2 Emergency reporting systems that are not covered by this standard shall be in accordance with NFPA 72.

1.3* Application. This standard shall apply to publicly and privately owned communications systems that include, but are not limited to, the following:

- (1) Computer aided dispatching systems
- (2) Telephone systems
- (3) 9-1-1 systems
- (4) Next Generation 9-1-1 systems
- (5) Multi-line telephone systems (MLTS) used to access the Enhanced 9-1-1 systems
- (6) Telematics
- (7) Emergency response facility alerting systems
- (8) Public and private alarm reporting systems
- (9) One-way and two-way radio systems

1.3.1 The communication systems listed in Section 1.3 shall provide the following functions:

- (1) Communication between the requester and emergency response agencies
- (2) Communication within the emergency response agency under emergency and nonemergency conditions
- (3) Communication among emergency response agencies

1.4 Retroactivity.

1.4.1 Unless otherwise noted, it is not intended that the provisions of this document be applied to facilities, equipment, structures, or installations that were existing or approved for construction or installation prior to the effective date of the document.

1.4.2 In those cases where it is determined that the existing situation involves a distinct hazard to life or property, the authority having jurisdiction shall be permitted to require retroactive application of any provisions of this document.

1.4.3 The portions of this standard that shall be applied retroactively are listed in Table 1.4.3, Retroactivity.

1.5 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

1.5.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.5.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.