



FIRE ENGINEERING & WATER SUPPLY BUREAU

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FIRE ALARM MONITORING AND SECONDARY POWER

There seems to be some confusion on how many hours of secondary power supply are required on fire alarm systems that are monitored off site by a fire alarm service provider.

This creates delays in the approval of plans and in permitting. It can further present a problem at the time of inspection on a system that was reviewed as a central station fire alarm system, but in actuality is a remote supervising station fire alarm system.

The central station fire alarm system requires a certificate issued by a third party, usually U.L., and must be placarded near the control panel at the premises. The permit cannot be closed out until the system is certificated and placarded. This certificate is not to be confused with the requirement for a "Record of Completion" or "Certificate of Completion" as it was previously called. See "Documentation" in chapter 1 of NFPA 72.

Also, note that the equipment must be listed for use, but that a listing of a fire alarm control panel for central station system use does not make it a central station fire alarm system.

The remote system requires no certificate or placard, but does require 60 hours of secondary power supply which may not be there if it the system was reviewed as a central station fire alarm system only requiring 24 hours of standby power.

I suggest that you read chapter 5 of NFPA 72, '99 edition, for an accurate understanding of the difference between the two types of off site monitoring. I will try and clarify a few points, but then you are relying on your understanding of my understanding, and even though I am always right, I would hate to base my income on the result.

Basically, all fire alarm systems must be installed according to NFPA 72 whether they are required by code or not required. Consequently, monitoring of a fire alarm by a supervising station provider, whether required or not, must also be per the same code.

The requirements for fire alarms, and for the monitoring of fire alarms, is found in NFPA 101 (2000 ed.) and NFPA 1 (2000 ed.), and varies for each occupancy type. The standard for the installation of fire alarms and monitoring of fire alarms is NFPA 72 (1999 edition).

All fire alarm systems require a secondary power supply (standby power) of a minimum 24 hours plus 5 minutes of alarm time, or 15 minutes of alarm time for emergency voice/alarm communication systems; unless they are a remote supervising station fire alarm system, in which case they require 60 hours of secondary power supply. This is typically provided by batteries, but can be met by other means that are mentioned in the code.

A “Central Station Fire Alarm System” is a system that is being provided with “Central Station Service”, as defined in NFPA 72, by a “listed” “Central Station”. Please go and read these definitions.

There are specific requirements for the performance, installation, and certification of both the central station facility and for the central station fire alarm system. The requirements for the performance of a remote supervising station fire alarm system are less stringent, and while they may be similar by contract, they are not specified by code as in central station systems.

Many service providers are listed as central station companies by a third party (usually U.L.) but may not be providing central station service to a given property. Some of the main differences between central station service and remote monitoring are in the required response to signals.

This is detailed extensively in table A-5-1 of the '99 edition of NFPA 72. The main points being that all alarm and supervisory signals in a central station system must provide an on site response by a runner within 1 hour of receipt of the signal and within 4 hours for trouble signals, 24 hours a day, 7 days a week.

Runner service, while not required in remote supervising station systems, may or may not be part of the service contract and may not meet the central station parameters. Additionally, in central station systems, there are stringent requirements for the documentation and response to all signals, and for testing and re-certification of the installed system and the servicing station as well. All of which is verified by the third party certifying organization.

All these added requirements translate into a more reliable system and a high level of protection, but it also means more expense to the system owner. This is the primary reason most systems which are monitored off site are remote supervising station fire alarm systems instead of central station fire alarm systems being provided with central station service.

I am being long winded on purpose. This is often misunderstood in both the permitting phase and at the time of inspection. There are very specific differences in the two types of systems and consequently there are very specific and different requirements that must be met by each type of system in order to pass inspection. Remember, whoever is certifying the system is stating that the system has been tested and installed according to the applicable standards and that it meets those standards to the letter.

Here it is in nutshell. If the system is designed as a “central station fire alarm system” that will be provided with “central station service”, by contract with a listed central station supervising facility, and if it will be certificated and placarded as a central station system verified by a third party certifying organization such as U.L., then it will only require 24 hours of secondary power supply as opposed to a remote supervising station fire alarm system which requires 60 hours of secondary power supply.

Any off site monitored fire alarm system that does not meet all the requirements for a central station fire alarm system is considered a remote supervising station fire alarm system.

So what does it mean, in response to our requirement that the type of system must be specified on the plans, when the designer states that, “The system will be monitored by a Central Station.” Absolutely nothing as far as the type of system is concerned. It simply means that the monitoring company may be listed as a central station service provider.

It certainly would help the permitting process if the designer would understand and use the specific terminology provided in NFPA 72, on the plans, such as, “The system will be a Central Station Fire Alarm System.” Or, “The system will be a Remote Supervising Station Fire Alarm System.” This will eliminate any ambiguity of intention by the reviewer and the fire inspector.

I hope this at least clarifies the subject a little. It can be confusing and is the source of a great many disapprovals in plan review as well as failures at inspection time. Not all systems require monitoring off site, but if it is intended to be monitored off site, be sure that you understand the requirements for the type of system specified.