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Understanding Supervision of Fire Protection Systems

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What is *Supervision*? The building and fire protection communities have adopted the word supervision to mean the *oversight* of fire protection systems. What is supervision? How does supervision contribute to fire protection goals? What are the goals of supervision? What are the requirements for supervision of fire protection systems? How is supervision achieved?

The Framework

The regulation, inspection and permitting of buildings and occupancies relies upon a strongly aligned triad of codes and standards. See Figure 1.

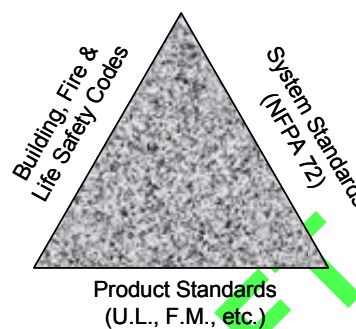


Figure 1

In the special case of fire protection, laws and regulations, most often in the form of *Building Codes* and *Fire Codes*, require specific occupancies or types of construction to have certain features, elements or systems. Those features, elements or systems, must be properly planned, designed, installed and maintained in accordance with certain standards. For fire detection and alarm systems, the standard referenced by most building and fire codes is *NFPA 72, the National Fire Alarm Code*. NFPA 72 references and relies upon product safety and performance standards such as those promulgated by Underwriter's Laboratories (U.L.) and Factory Mutual (F.M.).

A good example of this symbiotic relationship is smoke detection. Building and fire codes may require smoke detection in all or part of a building or space. These same building and fire codes have interior finish requirements, egress capacities and other requirements that may be balanced with the need for smoke detection. Alternatively, smoke detection may be required when one or more of these other protection elements is missing and relaxed. NFPA 72 then requires that smoke detectors be properly spaced and located in order to achieve a minimum level of smoke detection performance for a particular hazard or in a space. However, the spacing and location necessary to result in the expected smoke detection is based upon some minimum expected performance of each detector. That minimum performance is established, tested and verified by testing laboratories, such as U.L. and F.M.

For example, smoke detectors are designed, manufactured and tested to ensure they operate within a certain sensitivity range. If they were permitted to be less sensitive by the product standard, the

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installation standard (NFPA 72) would have to require a closer spacing in order to achieve the detection performance goal expected by the referencing building or fire code. If any one leg of the triangle in Figure 1 changes, one or both of the others must change to remain connected.

Performance based codes may explicitly state the intended goal or may require the designer to establish the goals. Prescriptive based codes do not always document the underlying goals. It is often necessary to go back to the loss history and the underlying research and testing that led to a code requirement in order to fully understand the intended goal.

What is supervision?

First, let's look at some definitions:

supervision \Su`per*vi"sion\, n. The act of overseeing; inspection; superintendence; oversight.¹
(*Webster's Revised Unabridged Dictionary, 1998 MICRA, Inc.*)

More appropriate are the definitions from the codes and standards which require supervision of fire protection systems. First, from the 2000 International Building Code (IBC) and International Fire Code (IFC):

SUPERVISING STATION. A facility that receives signals and at which personnel are in attendance at all times to respond to these signals.

SUPERVISORY SERVICE. The service required to monitor performance of guard tours and the operative condition of fixed suppression systems or other systems for the protection of life and property.

SUPERVISORY SIGNAL. A signal indicating the need of action in connection with the supervision of guard tours, the fire suppression systems or equipment, or the maintenance features of related systems.

The definitions in NFPA 72 are essentially identical, as are those in other building and fire codes.

The requirements for supervision in the IBC help to define the goals for supervision.

901.6 Supervisory service. Where required, fire protection systems shall be monitored by an approved supervising station in accordance with NFPA 72.

For sprinkler systems, extinguishing systems and fire alarm systems, the code has additional language defining in more specific terms what must be supervised at a *supervising station*:

903.4.1 Signals. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote supervising station or proprietary supervising station as defined in NFPA 72 or, when approved by the building official, shall sound an audible signal at a constantly attended location.

Reading these code requirements for the first time, or without the benefit of experience can be confusing because the codes use the base word *supervise* in two different ways: 1) *supervisory signal*; and 2) *supervisory service*. There are really two types of supervision defined and intended by the codes. First, the codes require that the supervision of “guard tours, the fire suppression systems or equipment, or the maintenance features of related systems” produce a *supervisory signal*, not an alarm or a trouble signal. This type of supervision is usually the connection of some type of switch or transmitter to a local, protected premises fire alarm control unit or directly to a supervising station fire alarm system. When a valve is closed, or a tank level is low, or a guard misses a round, a *supervisory signal* is generated.

The second type of supervision is *supervisory service*. It is intended to assure that all types of signals generated at the protected premises are received and acted upon. This includes the first type of supervisory signals described above, as well as alarm signals and trouble signals. The building and fire codes require the signals to be sent to a constantly attended location where someone is present to take appropriate action. In some cases, the codes require that location to be a specially designated *supervising station* with features specified in another standard, such as NFPA 72. In other cases, a loosely defined “constantly attended location”, usually on-premises, is permitted.

An alarm signal is intended to mean “warning of fire danger²”. A common point of confusion is the difference between a trouble signal and a supervisory signal. A trouble signal is generated when there is a “fault in a monitored circuit or component” of the fire detection and alarm system. Trouble signals are generated when some part of the fire detection and alarm is broken or not working. A supervisory signal occurs when another fire protection system or monitored component, such as a valve, is off-normal.

It should also be noted that the codes and standards now use the term “monitoring integrity” when referring to circuits, components, and functions of the fire detection and alarm system. Older codes and standards may have required circuits to be *supervised*. They now say they must be monitored for integrity. The term *supervision* has been standardized to refer to the oversight of the signals generated by the system.

Most codes require a local, protected premises fire alarm system in occupancies that might also require other fire protection systems that need to be supervised. Thus, there can be two levels of supervision of fire protection:

1. The supervision of fire protection systems such as sprinklers, tanks, special extinguishing systems, guard tours, etc. by the local protected premises fire alarm control unit; and
2. The supervision of the local control unit at a supervising station or other constantly attended location.

Older systems, some of which may still be in use, used supervision transmitters, such as waterflow transmitters and valve supervision transmitters, connected directly to the supervising station fire alarm circuits to send alarm and supervisory signals. In these configurations, there is no local

protected premises fire alarm control unit. Items 1 and 2 above are combined in such a hybrid system. Most of today's systems separate these functions.

How does supervision contribute to fire protection goals?

Life safety is the prime goal of most codes and standards. In some occupancies such as hospitals, nursing homes, long term care facilities, and high rise buildings, supervision of alarm signals is the means to ensure rapid fire department response and participation in evacuation and fire suppression efforts needed to meet life safety goals. In many other occupancies, supervision is an adjunct to measures already in place to provide the required level of life safety. In these situations, property protection, mission continuity and other goals may be the primary reasons for system supervision.

Supervision of trouble and supervisory conditions is needed to ensure that systems, which are being relied upon for local fire protection, are in service. If a code or authority having jurisdiction determines that a local system alarm should be supervised off-premises, does it make much sense to not also supervise its operating status (trouble and supervisory conditions)? Supervision of fire alarm and fire protection systems can be a useful tool for authorities to ensure that systems are properly maintained and working.

What are the goals of supervision?

There are several goals for supervision of fire protection systems. It is instructive to look at each signal type (alarm, trouble and supervisory) separately.

Alarm Signal Supervision

Most fire alarm systems are intended to receive detection alarm signals from automatic fire detectors or extinguishing systems and to alert the occupants of the building. In some situations, occupant notification may be all the system is intended to do. However, in most occupancies the codes require supervision of the local alarm signals. Supervision of the local panel at a supervising station is intended to assure that the local fire department or plant fire brigade is contacted and dispatched to assist in evacuation and in fire fighting. Why is this necessary if the occupants have been warned of the need to evacuate? Obviously, the warning to evacuate does not assure that evacuation takes place. Some people fail to heed the warning and others may not be capable of leaving without assistance. In addition, the fire department or brigade plays a critical property and mission protection role.

Is it within the jurisdiction of building and fire codes to provide for property and mission protection? Historically, yes. In fact, that is one of the key origins of these codes. Building and fire codes evolved, in part, for the purpose of limiting fire spread from one neighborhood to another in order to prevent conflagrations such as the fires which destroyed much of London in 1666, Pittsburgh in 1845, Chicago in 1871 and Boston in 1872. As construction materials and fire fighting apparatus and techniques advanced, the goal changed to limiting fire to the building of origin. Today, our codes still contain language and requirements that are intended to reduce the

likelihood of fire extending from one property to another, even if there are no fire fighting efforts brought to bare. But, the codes did not stop there. There are now requirements that work to contain a fire to a smaller area within a building – usually the floor of origin or some defined fire area.

Some occupancies, such as warehouses rely on the supervision of alarm signals to provide for property and mission protection. Unless they contain high hazard storage, warehouses do not generally require any occupant notification in the event of an alarm. This is because the occupant density is very low and the occupants are generally alert and in a large volume space. Egress for the few occupants is easily achieved. The large volume allows smoke and heat to be absorbed, reducing the exposure and permitting alerting by smell or by visual observation of the fire or smoke without adverse exposure. Even though occupant life safety is not an issue, if the alarm signals were not supervised, the fire might grow to a size that could not be managed by the local fire department or fire brigade. Firefighters attempting an interior attack of a well established fire might be in jeopardy. These types of fire, if allowed to grow unchecked in their early stages, may impact the community in ways other than just fire spread to other structures. Environment impact, local jobs and the tax base are additional reasons that supervision may be required.

Trouble Signal Supervision

A trouble signal indicates that the fire detection and alarm system may not be operating properly. If the system is not working properly, it may not perform its required alarm function. Supervision of trouble conditions is intended to assure that appropriate person(s) are notified so that remedial action can be taken.

It has been argued that supervision at a constantly attended location is not always necessary. For example, in a school or apartment building, is it sufficient if the trouble signal sounds at a location that is occupied whenever the building is occupied, or in a location “where it is likely to be heard” in a hotel for example? Historically, this has often been proven unreliable, and in some cases, disastrous. There generally is not a single location where a trouble signal is likely to be heard whenever the building is occupied. It may also be unreliable if the signal is not directed to someone whose job is the monitoring and care of the fire alarm system and who has been properly trained and drilled on the action to take when the system alerts them of a problem. Trouble signals – and alarm signals – are often considered an annoyance and may be disabled or vandalized by persons who do not understand the importance of the signal or the need to take action.

Supervision of trouble signals does not assure the proper handling of the signal and repair of the system. The operator who receives the signal at a supervising station or other constantly attended location, must have and follow prearranged procedures for handling the signal. The intent of the codes is that upon receipt of a trouble signal, the operator initiates actions aimed at effecting return of the system to normal operating condition. If the procedure calls for the operator to make a single call to the school principle or building manager and leave a message if they are not available, has supervision added any benefit?

Some codes and jurisdictions require the call list to include a licensed service organization that has been contracted with for system repairs and maintenance. Others require notification of the local

authority if the operator is unable to contact the persons on the call list or if the system remains in trouble for some set period of time. In 1996 a requirement was added to NFPA 72 to require trouble signals on a local, protected premises panel to resound every 24 hours. In 1999 this was amended to include retransmission to a supervising station, when used. This requirement provides those responsible for maintenance and repair with a constant reminder of the system status. In addition, it may provide valuable records for use by local authorities.

Supervisory Signal Supervision

A supervisory signal indicates that a fire protection system is off-normal. This may be a valve that is partially or completely closed on a sprinkler system, a low level in a water tank, a gaseous extinguishing system or a fire pump that has been turned off or an indication that a guard's tour is delinquent or out of order. The off-normal condition may be a planned situation, in which case the supervisory signal acts as documentation of the event and as a reminder to return the system to normal.

Building and fire codes generally require all fire suppression systems to be supervised. This is true even in situations where the code may not require the suppression system to include occupant notification. However, some older editions of the model codes do not require suppression system supervision in the case of factory and storage occupancies. This was based on belief that there was little added life safety by requiring supervision. The 2000 IBC requires supervision of all required sprinkler suppression systems. However, for other suppression systems, such as dry and wet chemical systems, supervision is required only if there is a building fire alarm system.

The common thread for supervision of suppression systems is life safety. The codes require sprinkler systems and/or fire alarm systems in occupancies and buildings with high hazard conditions or high numbers of occupants or in situations where it may not be possible to quickly bring manual extinguishment methods to bare. In contrast, a small kitchen hood suppression system might not require supervision because its failure may not significantly increase the risk to occupants, staff or firefighters. Thus, in those occupancies where suppression systems are an important and integral part of the fire protection, supervision is needed to ensure that the required protection remains operational.

More Goals of Supervision

An often overlooked purpose of supervision is record keeping and reporting. The National Fire Alarm Code, NFPA 72, and its predecessors has required system owners to keep records of all system activations, inspection, testing and maintenance. However, experience shows that record content and retention is often poor when left to an untrained person. This is particularly true in smaller facilities or commercial buildings where an owner's prime emphasis is on their business. Owners are permitted to delegate record keeping responsibility. They may also delegate the inspection, testing and maintenance to an outside company by written contract. Under these arrangements, records of system activations still tend to be less than 100% complete since the designated employee or outside service company is not always present when a system activates.

However, where a system is supervised by one of the methods recognized by NFPA 72, automatic recording of system activation is the norm. All but one of the NFPA 72 recognized types of supervising station requires automatic recording of the system activation and the date and time of occurrence. A Remote Supervising Station system is permitted to use manual recording methods (pen and paper) though most have automatic means.

What are the requirements for supervision of fire protection systems?

Building Codes and Fire Codes generally separate the supervision requirements for fire alarm system from those of suppression and other fire protection systems. In practice, as previously noted, the supervision of suppression and other fire protection systems is generally accomplished via the protected premises fire alarm system. The codes say which occupancies, use groups or situations require supervision. They usually expressly state the requirement for supervision of alarm, trouble and supervisory signals, as in the following excerpt⁴:

903.4.1 Signals. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote supervising station or proprietary supervising station as defined in NFPA 72 or, when approved by the building official, shall sound an audible signal at a constantly attended location.

However, some codes may not be as clear⁵:

923.1 Fire suppression systems:

All automatic fire suppression systems required for occupancies in Use Group A, B, E, H, I, M or R shall be supervised by method 1 or 2 below. All automatic fire suppression systems in other use groups shall be supervised by one of the following methods:

Fortunately, associated code commentary clearly indicates that the systems are supervised as a means of “determining at any time that the system is operational.”⁶ Therefore, it is intended for trouble and supervisory signals to be supervised as well as alarm signals.

The Building Codes and Fire Codes refer to several standardized methods for supervision and reference another leg of the protection framework shown in Figure 1. Almost always, the reference is to NFPA 72 or one of its predecessors. In some instances, the codes permit chain locking of control valves, combined with visual inspections, as a method of supervising fire protection valves.

How is supervision achieved?

With the exception of chain locked control valves, the codes refer to one of the standardized *Supervising Station Fire Alarm Systems* detailed in NFPA 72. There are three types of systems described in the *Supervising Station Fire Alarm Systems* Chapter of NFPA 72. These are:

- Fire Alarm Systems for Central Station Service
- Proprietary Supervising Station Fire Alarm Systems
- Remote Supervising Station Fire Alarm Systems

The codes may also permit supervision via a *Public Fire Alarm Reporting System*, which is detailed in a separate chapter of NFPA 72.

Each type of reporting system consists of a transmission method and a physical supervising station with all of the necessary circuits, equipment and personnel. Note that one of the NFPA 72 recognized systems is actually referred to as a *service* – Fire Alarm Systems for Central Station **Service**. This is because true, code complying Central Station Service includes many contractual and operating provisions not required for the other systems.

For the purpose of this paper its useful to combine the types of recognized *supervising station systems* and address them separately from the *transmission methods*.

Types of Supervising Station Systems/Service	Transmission Methods
1. Fire Alarm Systems for Central Station Service 2. Proprietary Supervising Station Fire Alarm Systems 3. Remote Supervising Station Fire Alarm Systems	1. Active multiplex 2. Digital Alarm Communicator Systems (wired or radio) 3. McCulloh 4. Two-way radio multiplex 5. One-way radio 6. Directly-connected noncoded systems
4. Public Fire Alarm Reporting System	7. Auxiliary Coded wire, local energy Coded wire, shunt type Coded radio, local energy Telephone series, local energy

Table 1

The current organization of NFPA 72 with respect to supervision can be confusing. In Table 1, the first three types of supervising station systems are permitted to use any of the first six types of transmission technologies to get signals from the protected premises to the supervising station itself. The specific requirements for each of these systems and transmission technologies is in the same chapter of NFPA 72. On the other hand, the chapter on Public Fire Alarm Reporting Systems addresses only the transmission methods listed in item 7 of Table 1. The actual organization of the chapter on Public Fire Alarm Reporting Systems is slightly different than that shown in Table 1, but it useful in this paper to define them as shown in the table.

This paper will not address all of the requirements and differences between the different types of systems or transmission methods. Nevertheless, it is useful to point out the major differences and how they have evolved and manifested themselves in common usage.

Regardless of the type of supervising station fire alarm system/service, NFPA 72 requires supervising station personnel to immediately retransmit fire alarm signals to the public dispatcher. They are not permitted to call the protected premises or in any way attempt to verify fire alarm signals before calling the fire department.

True Central Station Service is used in only a small percentage of instances where a code requires supervision. NFPA 72 requires that an owner have a single contract (prime contractor) that provides all six key elements of Central Station Service. These elements are:

1. Installation of fire alarm transmitters
2. Alarm, guard, supervisory, and trouble signal monitoring
3. Retransmission (to the public dispatch center)
4. Associated record keeping and reporting
5. Testing and maintenance
6. Runner service

Under Central Station Service an owner is not permitted to perform the required inspection, testing and maintenance on the fire alarm system and transmitters or to contract with a separate company. A single entity must be responsible, under contract, to provide all six elements. Note this includes a runner service dispatched to the protected premises when certain signals are received. Central Station Service also includes the receipt and retransmission of alarm, trouble and supervisory signals. Retransmission of alarm signals is to the appropriate public fire service communications center. In addition they must notify the owner and, if required, to the authority having jurisdiction. The handling of trouble and supervisory signals is strictly outlined in the code.

Central Station Service is also unique in that it requires the physical supervising station to comply to a specific standard – ANSI/UL 827, *Standard for Safety Central-Station for Watchman, Fire-Alarm and Supervisory Services*⁷. In addition, the prime contractor must provide third-party verification of code compliance by having the system either certificated or placarded. At this time the only known certification program is administered by UL and the only placarding system is administered by Factory Mutual (FM).

Proprietary Supervising Station Fire Alarm Systems are operated by trained, competent personnel in constant attendance who are responsible to the owner of the protected property⁸. A key element of this service is that the properties are all under one ownership. The code contains requirements for the physical supervising station facilities that are less stringent than those for Central Station Service. Also, the owner is free to either conduct their own inspection, testing and maintenance program or delegate that responsible to another party. As with Central Station Service, the handling of trouble and supervisory signals is strictly outlined in the code.

The section in NFPA 72 for Remote Supervising Station Fire Alarm Systems does not contain any requirements for the physical supervising station itself. An important distinction of a Remote Supervising Station Fire Alarm System is that alarm signals must be received “at the public fire service communications center, at a fire station, or at the governmental agency that has a public responsibility for taking prescribed action to ensure response upon receipt of a fire alarm signal.”⁹ The exception is if “such an agency is unwilling to receive alarm signals or permits the acceptance of another location”.

If the fire alarm signal of the Remote Supervising Station Fire Alarm System goes direct to the public fire dispatcher, isn't that the same as a Public Fire Reporting System – item 4 in Table 1? No. Table 1 shows that for a system to be called a Public Fire Reporting System, it must use one of the transmission methods listed in item 7 of the table. If the system uses one of the first six transmission methods, it's called Remote Supervising Station Fire Alarm System.

Because most public fire service communications centers are not willing to monitor (supervise) trouble and supervisory signals, the section on Remote Supervising Station Fire Alarm Systems permits these types of signals to be handled at a constantly attended location, other than where the alarm signals are received. That location must have personnel on duty who are trained to recognize the type of signal received and to take prescribed action. However, unlike Central Station Service and Proprietary Supervising Station Fire Alarm Systems, it is not required that the operators' prime responsibility be the receipt and handling of the signals.

Public Fire Reporting Systems consist of street boxes used to transmit alarms to the public fire service communications center. When automatic transmitters are used to interface a fire protection system such as a fire alarm or a suppression system to the Public Fire Reporting System, it is called an Auxiliary Fire Alarm System. Differing from the presentation in Table 1, the chapter on Public Fire Reporting Systems lists three types of Public Fire Reporting Systems and two types of Auxiliary systems. See Table 2 from NFPA 72¹⁰. Note that the table lists a third type of auxiliary system, Parallel Type, but does not permit it to interface to a Public Fire Reporting System.

Reporting System	Local Energy Type	Shunt Type	Parallel Type
Coded, wired	Yes	Yes	No
Coded, radio	Yes	No	No
Telephone, series	Yes	No	No

Table 2

The NFPA 72 chapter on Public Fire Reporting Systems sends the reader to NFPA 1221, *Standard for Installation, Maintenance, and Use of Emergency Service Communications Systems*, for requirements pertaining to the physical supervising station and the personnel requirements. As with Central Station Service there are strict requirements and guidelines for the supervising station location and construction, including the provision for back-up facilities.

A key advantage to the use of an Auxiliary/Public Fire Reporting System is that there is no intermediate handler of alarm signals. Alarm signals are transmitted directly from the protected

premises and received at the public fire service communications center. For the other types of systems shown in Table 1 (Fire Alarm Systems for Central Station Service, Proprietary Supervising Station Fire Alarm Systems and Remote Supervising Station Fire Alarm Systems) alarm signals are transmitted to an intermediate supervising station that must retransmit the alarm signal to the public fire service communications center serving the protected premises.

Unlike the other systems listed in Table 1, Auxiliary/Public Fire Reporting Systems are not required to transmit any signals other than fire alarm signals. This differs even from Remote Supervising Station Fire Alarm Systems which are required either to transmit trouble and supervisory signals – even if to a different supervising station/location – or at least announce them at a constantly attended location. Public Fire Reporting Systems are technically capable of transmitting trouble and supervisory signals and are permitted to do so:

6-2.2 A public fire alarm reporting system, as described herein, shall be permitted to be used for the transmission of other signals or calls of a public emergency nature, provided such transmission does not interfere with the transmission and receipt of fire alarms¹¹.

However, section 6-16.4.3 restricts auxiliary transmitters to fire alarm devices only. Specifically, the list includes manual fire alarm, waterflow or other suppression system actuation, and automatic fire detection. In many cases, the technology of an auxiliary system is capable of transmitting and differentiating different types of signals. However, this code section does not permit and most public fire service communications center are not willing to monitor (supervise) trouble and supervisory signals.

For these reasons most model building and fire codes do not list Public Fire Reporting Systems as an acceptable method of supervision of fire protection and fire alarm systems. Some jurisdictions, such as the Commonwealth of Massachusetts, recognize that Public Fire Reporting Systems can be a viable method for supervision of alarm signals. They then require trouble and supervisory signals to be supervised using one of the other methods listed in Table 1.

As is often the case, technology and market demands have outpaced the building codes, fire codes and NFPA 72. The advent of highly reliable digital communication systems – both wired and radio – has resulted in a new category of supervising station system not recognized by the codes and standards. The transmission methods are recognized by NFPA 72 (see Table 1, transmission methods 2, 4 and 5). However, few, if any, public fire service communications center have been retrofitted to use the new technology.

The private sector has, however, seen the benefit of these new technologies and their ability to handle large amounts of data (types of signals) with greater resolution. It is possible, though not always a benefit, to transmit the exact location in a building where an alarm originated, not just the street address.

So, as building and fire codes and owners require supervision of more of their fire protection and other systems, its no wonder that they turn to private sector companies capable of receiving and handling all of their signaling and record keeping needs. Thus, Auxiliary/Public Fire Reporting

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Systems and true Remote Supervising Station Fire Alarm Systems are rarely used. Also, the perceived higher cost of true Central Station Service lowers it on the list of viable options.

What has evolved can be broadly categorized as 1) central station monitoring (note the lack of capital letters and the absence of the word *service*) and 2) unrecognized monitoring.

Many companies that are listed (listed by UL or approved by FM) Central Station Service companies sell their monitoring or supervision services without all six elements required for true Central Station Service. For example, the owner may choose to do their own inspection, testing and maintenance or to separately contract out some or all of those services. Couldn't this monitoring/supervision service be called a Remote Supervising Station Fire Alarm System? Remote Supervising Station Fire Alarm Systems are required to receive signals at the public fire service communications center. But, an exception says:

“If such an agency is unwilling to receive alarm signals or permits the acceptance of another location by the authority having jurisdiction, such alternate location shall have personnel on duty at all times who are trained to receive the alarm signal and immediately retransmit it to the fire department.”¹²

Thus, despite the awkward wording, the local authority having jurisdiction can designate or approve alternate locations, such as a listed Central Station to receive signals and act as a Remote Supervising Station Fire Alarm System. Technically, the wording of the first part of the exception (“If such an agency is unwilling to receive alarm signals or..”) indicates that approval of the AHJ is not even required.

The marketplace has also spawned many monitoring companies that are not listed to provide Central Station Service or Remote Supervising Station Fire Alarm System services. From an outsider's perspective, they may look and act very much like Central Station Service companies or Remote Supervising Station Fire Alarm System companies. However, they have not been listed to provide such services. Their contracts often indicate that monitoring is at their Central Station. However, this is not a listed Central Station monitoring facility. Even listed Central Station Service companies often issue contracts that say signals will be monitored or supervised at their listed Central Station. What they do not say, is that they are not contracting for true, code complying Central Station Service and their services may not even meet the requirements as a Remote Supervising Station Fire Alarm System.

Conclusions and Comments

The evolution of system supervision has created a confusing menu of technology and services trying to fit into categories or names that have long ago lost their original intent and meaning. The lack of training and historical perspective has left most AHJs, users and owners confused about what is required, what is permitted and what is available.

Until, and unless, the codes and standards change, its best to focus on the intent of supervision requirements:

- To reliably know when there is a fire alarm and to get that information to the public fire service communications center;
- To reliably know when there is an impairment, accidental or intentional, of a fire protection system and to get that information a responsible party who will take corrective or mitigating measures; and
- To reliably know when there is fault in a fire alarm system and to get that information a responsible party who will take corrective or mitigating measures.

With these simple goals in mind, owners, users, designers and AHJs can intelligently select a supervising station and transmission technology to meet their needs.

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¹ Webster's Revised Unabridged Dictionary, 1998 MICRA, Inc.

² NFPA 72, National Fire Alarm Code, 1999, Section 1-4, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

³ NFPA 72, National Fire Alarm Code, 1999, Section 1-4, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

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⁵ 1993 National Building Code, BOCA International, 4051 West Flossmoor Rd, Country Club Hills, IL 60478-5795

⁶ 1993 National Building Code Commentary, BOCA International, 4051 West Flossmoor Rd, Country Club Hills, IL 60478-5795

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⁸ NFPA 72, National Fire Alarm Code, 1999, Section 5-3.2.1, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

⁹ NFPA 72, National Fire Alarm Code, 1999, Section 5-4.3.1, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

¹⁰ NFPA 72, National Fire Alarm Code, 1999, Section 6-16.4.2, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

¹¹ NFPA 72, National Fire Alarm Code, 1999, Section 6-2.2, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

¹² NFPA 72, National Fire Alarm Code, 1999, Section 5-4.3.1, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA, 02269-9101.

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