FIRE ALARM SYSTEMS
PERMIT APPLICATION, PLAN SUBMITTAL, DESIGN, INSTALLATION AND INSPECTION REQUIREMENTS

Effective Date: January 2017

1.0 PERMITS

1.1. To acquire an installation permit for a Fire Alarm System or a Monitoring System, submit the following to the San Jose Fire Department's (SJFD) Bureau of Fire Prevention (BFP) located at 200 E. Santa Clara St., Development Services, San Jose, California:

1.1.1. A completed Fire Protection and Special Systems Installation Permit – provide all required information and make sure the permit card (manila card) is legible.

1.1.2. A copy of the San Jose Fire Department Plan Check Comments – this may be obtained from the architect or general contractor.

1.1.3. A copy of any approved "variance" or "alternate methods (AMMC)" that is relevant to the system – check with the architect or general contractor if a "variance" or "alternate methods" was submitted to and approved by the City of San Jose.

1.1.4. A minimum of three sets of shop quality plans, fire alarm system equipment list, fire alarm components cut sheets/data sheets, California State Fire Marshal (CSFM) listing documentation and one submittal packet for the proposed system – one set of plans and associated documents shall be retained by the BFP.

1.2. Permits are required for any work involving a Fire Alarm System or a Monitoring System (for example systems such as, sprinkler monitoring system, elevator recall control, pre-action systems, clean agent systems, gas detection, emergency responder radio coverage signals, commercial hood and duct extinguishing system signals, etc.):

1.2.1. Installation of a new system

1.2.2. Any alteration to an existing system

1.2.3. Addition to an existing system.

1.2.4. Demolition of a part or of a whole system.

1.2.5. Relocation of panels (such as FACU, Pre-Action Systems, Clean Agent Systems, etc.)

1.2.6. Emergency Replacement of a system. **Note: Approved Fire Watch is required while the system is being replaced and until the Permit is finaled**.

1.3. The following three types of plan check services are available:

1.3.1. Regular Plan Review

1.3.2. Expedite Plan Review

1.3.3. Over the Counter Plan Review (limited to maximum of 12 devices and/or appliances)

1.4. See Fee Schedule for permit fees.

1.5. Plan check fees will be collected when plans are submitted. Permit fees will be collected when plans are approved.

1.6. The permit applicant shall be the installing contractor. All installing contractors shall have a California Electrical (C-10) Contractor's License, a valid worker's compensation certificate, and a San Jose business license. The plans shall be stamped and wet signed.

1.7. Installation, alteration, addition, demolition, or relocation of a system shall not commence prior to the approval of plans and the issuance of a permit.

1.8. The entire permit card and a San Jose Fire Department approved set of plans shall be kept at the project site until final approval of the permit, after which they shall remain in the possession of the owner.

2.0 PLANS

Failure to provide any of the information required in Sections 2.1 through 2.9 herein will result in the plans being disapproved.

2.1 General Requirements for all Projects:

2.1.1 Plans and attachments shall be clearly labeled and legible to the satisfaction of the fire code official.

2.1.2 Plans and all revisions to the plans shall be dated. If utilizing an existing drawing or portion of a drawing, the area of work shall be highlighted and clouded with an appropriate symbol (delta). Provide a revision list with a symbol, date, description, and initials.

2.1.3 When making alterations, additions, or deletions to an existing system, all existing devices and equipment shall be shown and properly identified on the floor plan and system riser (single-line) diagram.

2.1.4 Plans shall include a title sheet, an equipment list, a written sequence of operation or functional matrix, a floor plan, a system riser diagram, and secondary power & voltage drop calculations. See Section 2.2 through 2.9 herein.

2.1.5 Attachments shall include the manufacturer's specification sheets and California State Fire Marshal (CSFM) listing sheets for all equipment and devices requiring listing. See Section 2.8 herein.

2.1.6 Plans submitted in color shall use line types and wiring tags/labels such that the information is retained when plans are scanned and copied in black/white or gray scale.

2.2 The Front Title Sheet shall contain the following information:

2.2.1 Project name and address of the project.

2.2.2 The designer's full name (no initials, pseudonyms, acronyms, or aliases) and signature. The designer of record shall be responsible for the entire system being worked on.

2.2.3 Business name, address, and California Contractor's License number of the installing contractor**.**

2.2.4 If the designer of the system is not the installing contractor, the following shall be clearly indicated/printed on the plans:

DESIGNED BY - followed by the designer's business name, address, designer of record's full name and signature.

INSTALLING CONTRACTOR - followed by the installing contractor's business name, address and California Contractor's License number.

2.2.5 Type of supervising station service as per NFPA 72 - Central Station Service or

Proprietary Supervising Station Service. **Note: Remote Supervising Station Service & Remote Supervising Station Fire Alarm Systems are not allowed.**

2.2.6 The name and address of the supervising station and the UL number.

2.2.6.1 The supervising station shall be UL listed for central station service (UL listing – UUFX).

2.2.6.2 Clearly indicate the contract arrangement between the protected premises and the listed Central Station and/or the listed local service company if all the services indicated in Section 26.3.2 of NFPA 72 are not provided by the same entity.

2.2.6.3 The prime contractor shall post the UL Certificate for the fire alarm system conspicuously within three-feet of the fire alarm panel at the protected premises.

2.2.7 Occupancy group(s) of building or area as defined by the California Building Code. Provide Occupant Load on the plans.

2.2.8 Building information such as number of basements, number of stories above basement, building height, total building area, and building construction type.

2.2.9 Scope of work and why the system is being installed, i.e., required by the California Building Code or California Fire Code, required due to a variance, or voluntary. Clearly indicate if the scope of work is new construction, market-ready (finished and occupiable), tenant improvement, demolition, voluntary, shell (not for occupancy) space, etc.

2.2.10 If the scope of work is the demolition of an existing system, justification for removal shall be provided.

2.2.11 Include the approved "variance" and/or "alternate methods" (AMMC) affecting the design of the fire alarm system, on the title sheet of the plans.

2.2.12 For new construction, the extent of detector coverage (Complete coverage, Partial or Selective coverage, Non-required coverage) should be indicated.

2.2.13 Indicate if the building is protected with an automatic sprinkler system or not.

2.2.14 A note stating that the design and installation complies with NFPA 72 (2016 edition), the California Electrical Code (2016 edition), the California Fire Code (2016 edition), the California Building Code (2016 edition), and the current San Jose Fire Department ordinances, policies, and standards.

2.2.15 A clear site map and vicinity map.

2.2.16 A key plan of the building and/or complex indicating the street location and the area of work within the building shall be provided.

2.2.17 Performance-based designs should include documentation of the performance objectives, applicable scenarios, all calculations, modeling files & results and all other technical substantiation used to determine the design criteria and life safety performance per NFPA 72, Section 17.3.

2.2.18 Any other pertinent notes.

2.3 Equipment List:

2.3.1 Provide the model number, manufacturer's name, description, quantity, CSFM listing number, and symbols to be used (legend) for each device, equipment, and conductors proposed to be installed. **Note: The Fire Department reserves the right to disallow any listed product due to past performance.**

2.3.2 All plans and shop drawings shall use the symbols identified in NFPA 170, Standard for Fire Safety and Emergency Symbols. The symbols used on the plans and the fire alarm riser diagram shall match the legend. Strike out any "typical" symbols that do not pertain.

2.3.3 Provide the wiring schedule.

2.4 Sequence of Operation – a written description or matrix chart shall be provided to define the events that occur when various initiating devices are activated. The description shall include details relating to annunciation, evacuation warning, remote signaling, and activation of fire safety control functions, as applicable. Also provide programming description/label for each initiation, monitoring, and control device.

2.5 Floor Plan – the following shall be clearly indicated:

2.5.1 Scale used and a graphical representation of the scale. The minimum scale for fire alarm plans is 1/8" = 1'-0". Metric scale shall not be accepted.

2.5.2 The locations of doors, partitions, non-rated walls, and rated walls. If not full height, indicate the heights of the wall and the ceiling.

2.5.3 The location of all equipment, devices, and appliances (including fire sprinkler control and test valves, fire smoke dampers, air handler units, magnetic door holders, etc.) and end-of-line devices.

2.5.4 The candela rating of each strobe; the sound pressure level (dBA) of each horn; the wattage setting of each speaker.

2.5.5 Device address of all initiating devices, modules, relays, etc.

2.5.6 Provide ambient noise level and design minimum audibility level for all rooms in the building.

2.5.7 Use of each room or space (room description).

2.5.8 Type of ceiling or roof construction, i.e., smooth, solid joist construction, beam construction, sloped ceiling, and/or high ceiling. Provide elevation details for the purposes of evaluating proper detection coverage per NFPA 72, Section 17.6.3.

2.5.9 A scaled cross-section or elevation-plan if automatic detectors are to be installed.

2.6 Riser Diagram – provide the following:

2.6.1 Single-line wiring diagram (riser diagram) that shows the interconnection of each device and equipment of the whole system.

2.6.2 Candela rating of each strobe; the sound pressure level (dBA) of each horn; the wattage setting of each speaker.

2.6.3 Number of conductors in each wiring segment and the type and size of wire or conductor to be used.

2.6.4 The class and style for initiating, signaling line and notification device circuits.

2.6.5 The circuit number or identification of each Initiating/Notification and Signaling Line circuit.

2.7 Calculations:

2.7.1 Secondary power calculation - The secondary power supply shall have sufficient capacity to operate the fire alarm system for a minimum of 24-hours (or 60-hours, if previously approved) and, at the end of that period, shall be capable of operating all alarm notification appliances for at least 5 minutes or 15 minutes if an Emergency/Voice Communications System (EVACS) is installed. Battery calculations shall include a minimum 20 percent safety margin above the calculated amp-hour capacity required. Provide calculations to verify that standby batteries or other approved secondary power source, has 24-hours battery standby with UL Certification. Also refer to Section 2.9, herein, for information on previously approved fire alarm systems with 60-hours battery standby capacity.

2.7.2 **Employee Work Areas** - Per CFC Section 907.5.2.3.1, a minimum 20 percent spare capacity shall be provided to notification appliance circuits to account for the potential of adding additional visible notification appliances in the future to accommodate hearing impaired employee(s).

2.7.3 Voltage drop calculation - Provide voltage drop calculations for each circuit. Calculations shall be provided to verify that the maximum voltage drop in the notification circuits (NAC) do not exceed **15 percent**. To properly execute the voltage drop calculations the battery should be assumed degraded 15% from **24** volts down to **20.4** volts in accordance with the 9th Edition Standards for fire alarm control panels UL 864. Use the resistance tables in the National Electrical Code to determine the resistance of the wiring.

Note: Field and pre-testing is to be done on batteries and the most demanding circuits by calculation shall be tested using an approved voltage drop meter with the beginning battery charge being verified and the 15% maximum voltage drop across the circuit being verified from the starting battery charge.

2.7.4 Provide power and voltage drop calculations for speaker circuits.

2.8 Attachments:

2.8.1 Manufacturer's specification sheets for all devices, equipment, and materials to be used shall be submitted, including the transponder to the supervising station. Highlight on the cut sheet which device or equipment is being used, the listing information, and the application per listing.

2.8.2 Submit copies of the CSFM listing number sheets for all devices and equipment requiring listing.

2.9 UL Certification & Battery Standby Requirement:

2.9.1 Beginning January 1 2017, all new fire alarm systems and dedicated function fire alarm systems (such as sprinkler monitoring systems, etc.) serving the protected premises shall be UL Certified with 24-hours battery standby.

2.9.2 Beginning January 1 2017, the 60-hours battery standby will no longer be permitted for new systems in lieu of UL Certification for the system.

2.9.3 Tenant Improvement or Market-Ready (finished and occupiable) projects are exempt from the UL Certificate requirement if the 60-hours battery standby is maintained as previously approved.

2.9.4 Tenant Improvement projects that include replacement of only the fire alarm control unit and/or power supplies are exempt from the UL Certificate requirement if the 60-hours battery standby is maintained as previously approved.

2.9.5 One-for-one replacement projects that include replacement of any devices, appliances, fire control unit, and/or power supplies are exempt from the UL Certificate requirement if the 60-hours battery standby is maintained as previously approved.

2.9.6 It is not the intent to require a UL Certificate for previously approved fire alarm systems with 60-hours battery standby (or secondary power supply consisting of an automatic-starting, engine driven generator and 4-hours/24-hours storage batteries).

2.9.7 The designer has a choice to provide a UL Certificate with 24-hours battery standby for previously approved systems that have 60-hours battery standby with approval from the AHJ.

3.0 DESIGN AND INSTALLATION

3.1 Systems shall be designed and installed in accordance with NFPA 72 (2016 edition), the California Electrical Code (2016 edition), the California Fire Code (2016 edition), the California Building Code (2016 edition), and the current San Jose Fire Department ordinances, policies, and standards. Other standards contain design/installation criteria for specific life safety related equipment. These other standards are referred to in NFPA 72.

3.2 Refer to the fire and building codes to determine when a Fire Alarm System is required. Fire alarm systems for buildings shall be designed based on the occupancy group and occupant load as determined by the architect and approved by the Building and Fire Department permitting process.

For example, all tenant spaces, in a multi-tenant leasable building approved as a Group "M" Occupancy shall comply with the Group "M" requirements for the fire alarm system and occupant notification coverage.

3.3 **Retroactivity of NFPA 72 -** Like most installation standards, NFPA 72 is not intended to be enforced retroactively on existing buildings (NFPA 72, Section 1.4.1). However, we routinely receive questions on how to address new fire alarm systems in existing buildings. SJFD and NFPA 72 do not specifically address this complex issue. Requiring that a fire alarm system in an existing building meet the requirements that NFPA 72 intends for new systems can be difficult, particularly when dealing with notification appliances and minimum sound levels. The need for occupant evacuation, the evacuation capabilities of the occupants, and the cost of the upgrades should be considered when applying the requirements of NFPA 72 to a fire alarm system in an existing building. While it is ultimately up to the system designer to provide a code compliant system, SJFD regulates as follows:

3.3.1 When a new system is required due to change of occupancy or CFC mandate, the premises shall be brought up to current code.

3.3.2 When the existing system is no longer serviceable and hence, must be replaced as a maintenance repair, a new system may be installed in the same configuration to the existing layout and function provided it does not diminish what was the original systems capability. The scope shall be clearly demonstrated on the plans and acceptance testing shall be the same as if the system where new. **Note: SJFD to determine when a fire alarm system must be brought into compliance with the current code.**

3.4 There shall be no more than one fire alarm/sprinkler monitoring system in a building. Likewise, there shall be no more than one supervising station providing service to a building.

3.5 When Auxiliary Suppression systems (Pre Action; Clean Air Fire Extinguishing; etc.) are installed requiring a listed releasing panel, it is preferable that that building Fire Alarm panel be used and upgraded if necessary. Should an auxiliary releasing panel be proposed and acceptable to SJFD, it must be installed in the same location as the building panel and be tied to the building Fire Alarm panel. An annunciator panel controlling the auxiliary suppression system located at the building Fire Alarm panel shall be required if a releasing panel is approved to be installed other than next to the building Fire Alarm panel.

3.6 Combination Systems, when installed, shall be CSFM listed. Such Systems shall be monitored by one of the methods illustrated in Section 6, herein. Combination Systems shall meet the requirements of NFPA 72, Section 23.8.4.

3.7 **Communication Method** - A Single Technology is permitted to create multiple paths per NFPA 72, Section 26.6.3.5.

3.7.1 The failure to complete a signal transmission shall be annunciated at the protected premises per NFPA 72, Section 10.14.

3.7.2 A system employing IP Technology as a primary method of transmission shall be provided with a secondary method of transmission using another transmission technology such as, a cellular network or radio network.

3.8 **Automatic detection in break rooms** - Provide heat detection in break rooms when detection is required or provided. This requirement is applicable to all Tenant Improvement and/or Market- Ready (finished and occupiable) projects.

3.9 **Occupant Notification Coverage** - In market-ready (finished and occupiable) spaces, occupant notification coverage shall be provided per CFC 907.5 and NFPA 72. In shell (not for occupancy) spaces, minimum occupant notification coverage shall be provided and the system shall be capable of supporting future expansion.

3.10 **Audibility Coverage** – Provide audibility coverage in all occupiable rooms/spaces of the building. For the purposes of this requirement, normally unoccupied spaces such as mechanical rooms, electrical rooms, storage rooms, etc. are considered occupiable rooms (Occupiable rooms/spaces include any room/space equipped with means of egress, light and ventilation facilities). Visible coverage may be provided with approval from AHJ when average sound ambient noise is greater than 95 dBA.

3.11 **Voice Evacuation Systems Used for Other Functions** - When a voice evacuation system is installed in a building, the system can be used for other non-emergency functions. NFPA 72 allows the fire alarm system to be utilized for other ancillary functions such as general paging, background music or other non-emergency functions as long as the fire alarm signal takes precedence over all other signals.

3.12 **Building Evacuation Strategies** - Many people have a "one-size fits-all" approach to fire alarm systems and treat them like the fire alarm system we experienced in school (the alarm sounds loudly and everyone leaves the building in an orderly fashion). However, this practice may not be desirable in all buildings and is not necessarily required.

In addition to the public mode / private mode provisions of NFPA 72, another frequently overlooked provision in NFPA 72 is Section 23.8.6.3. This section allows fire alarm signals to be sounded by zone and that the notification should match the evacuation strategy of the facility (see the following language):

NFPA 72, Section 23.8.6.3.1 - Notification zones shall be consistent with the emergency response or evacuation plan for the protected premises.

NFPA 72, Section 23.8.6.3.2 - The boundaries of notification zones shall be coincident with building outer walls, building fire or smoke compartment boundaries, floor separations, or other fire safety subdivisions.

3.13 **Commercial Low Frequency Sounding Appliances** - NFPA 72, Section 18.4.5.3 contains language requiring audible appliances that produce a low frequency signal in rooms used for sleeping. Low frequency signaling shall be provided in every bedroom. Other areas that might reasonably be used for sleeping such as living rooms shall also be provided with low frequency signaling levels of at least 75 dBA (or greater per NFPA 72, Section 18.4.5.1) at pillow level. **Note:** The minimum required 75 dBA in living rooms may not be attainable using the appliance located in the bedroom. Barriers such as doors, curtains or retractable partitions should be taken into consideration and the sound pressure levels shall be demonstrated on field with bedroom doors closed. Maximum sound pressure level permitted is 110 dBA at the sounding appliance.

The alarm signal in the sleeping area must produce a square wave signal that meets a frequency of 520 Hz ± 10 percent (NFPA 72, Section 18.4.5.3). This language will apply to new hotel/motels, apartments and assisted living facilities. It is not intended to apply to hospitals, nursing homes or child care centers where staff is available to assist with evacuation.

When system smoke detectors are used in lieu of smoke alarms, the low frequency signaling requirements of NFPA 72, Chapter 18, shall be applicable.

3.14 **Residential Low Frequency Sounding Appliances** - NFPA 72, Chapter 29 (Single and Multiple Station Alarms and Household Fire Alarm Systems) contains new language for low frequency smoke alarms in dwelling units where the occupants have mild to severe hearing loss (NFPA 72, Section 29.3.8.1). This language will be difficult to apply in single family homes. But it is important to keep this section in mind when applying the code requirements for an assisted living facility where the occupants may have mild to severe hearing loss.

Occupants with profound hearing loss must be provided with tactile notification appliances (NFPA 72, Section 29.3.8.2). It is important to differentiate between the NFPA 72, Chapter 18 fire alarm system notification requirements and the dwelling unit smoke alarm provisions of NFPA 72, Chapter 29. Chapter 18 applies to all fire alarm system installations where occupants sleep. Chapter 29 applies to only those occupants with mild to severe hearing loss.

3.15 **R-2 Fire Alarm Visible Notification Capabilities and Interconnection**:

3.15.1 All sleeping areas (including spaces that might reasonably be used for sleeping such as living rooms) in all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances.

3.15.2 A detailed description of the future conversion (addition of audible/visible appliance, relocation/deletion of horns, etc.) of an apartment unit to hearing impaired use unit shall be described. Typical floor plans of the units "before" visual appliance conversion and "after"

visual appliance conversion shall be provided. The future Fire Alarm Sequence of Operation, battery calculations and voltage drop calculations shall be described in detail.

3.15.3 Since the units will need to be pre-wired for future conversion, SJFD inspection shall be required before dry walls are installed. Inspections may be scheduled by calling (408) 535-3555.

3.15.4 Upon future conversion visible alarm notification when provided shall be provided throughout the entire premises and shall be interconnected such that any alarm initiated within a unit shall cause all notification appliances within the unit to activate.

3.15.5 Activation of any alarm initiating device within a unit shall be transmitted as a Supervisory Signal to the Central Station and FACU.

3.16 **Fire Pumps -** Audible and visual supervisory alarms shall be provided at a constantly attended space. These alarms shall indicate the following:

3.16.1 Electrically-driven pumps

3.16.1.1.1 Controller has operated into a motor running condition (separate signal)

3.16.1.1.2 Loss of any phase on the line side of the motor contactor (separate signal)

3.16.1.1.3 Phase reversal on line side of motor starter (separate signal)

3.16.2 Engine-driven pumps

3.16.2.1.1 Engine running (separate signal)

3.16.2.1.2 The controller main switch has been turned to “off” or “manual” position (separate signal)

3.16.2.1.3 Trouble on the controller or engine and low fuel (separate or common signal)

3.17 **Emergency Generators -** Audible and visual supervisory alarms shall be provided at a constantly attended space. These alarms shall indicate the following:

3.17.1 Engine running (separate signal)

3.17.2 The controller main switch has been turned to “off” or “manual” position (separate signal)

3.17.3 Trouble on the controller or engine and low fuel (separate or common signal)

3.18 **Supervision of Remote Power Supplies** - When multiple remote power supplies are installed at different locations in a building, each remote power supply shall be individually supervised for trouble conditions. Remote power supplies provided to power door holder circuits shall also be monitored. If all the power supplies are located in one room, then combined supervision of all power supplies is permissible.

3.19 **Signaling Line Circuits (SLC) Zoning -** For fire alarm systems in new construction, a single fault on a pathway connected to the addressable devices shall not cause the loss of the devices in more than one zone. Refer to NFPA 72, Section 23.6.1. Provide SLC Zoning isolation details on the floor plans and the riser diagram.

3.20 **Pathway Survivability -** Level 2 or Level 3 pathway survivability is required for Fire Alarm Systems employing relocation or partial evacuation. (NFPA 72 Section 24.3.13.4.1)

3.21 **Fire Alarm Signal Transmission** - When addressable panels are installed, the signals transmitted to a supervising station shall include detailed information about the alarm at the initiating device level (Individual Point Identification Monitoring). Previously approved addressable panels with zoned monitoring are exempt.

3.22 **Monitoring of Signals -** When provided, the following signals shall be monitored by the fire alarm system. SJFD will test the signals during inspection.

3.22.1 Emergency Responder Radio Coverage (ERRC) signals

3.22.2 Gas detectors / CO detectors (NFPA 72 Section 23.8.4.8)

3.22.3 Commercial hood and duct extinguishing system signals

3.23 Manual Pull Station - When only one Manual pull station is provided, it shall be located adjacent to the Fire Alarm Control Panel.

3.24 Sprinkler System Monitoring – Provide one exterior weatherproof notification appliance, preferably, a horn/strobe, at the front entrance or near the sprinkler riser room, as approved by the fire code official.

3.25 **Wiring -** General guidance includes but is not limited to the following:

3.25.1 All fire alarm cables shall confirm to the requirements of National Electrical Code (NFPA 70).

3.25.2 Good workmanship shall be apparent in the installation of fire alarm cables/conduits.

3.25.3 Fire alarm cables that are installed exposed shall be run parallel and perpendicular to the surface of the building or exposed structural members and follow the surface contours as much as practical. Fire alarm cables, whether exposed, concealed or in raceways, shall be sufficiently supported using devices intended for the purpose.

3.25.4 Fire alarm cables/conduits shall be firmly secured in place, adequately supported and permanent. UL listed cable/zip ties when used to secure fire alarm cable to building members/structure, shall be of a type designed, intended and appropriate for use and complement the items with which they are used.

3.25.5 Low voltage fire alarm cables (NAC and SLC) shall be adequately separated from high-voltage cables.

3.25.6 Fire alarm raceways (when used/required) shall be firmly and securely fastened to or supported from the building structure or a structural member or embedded in concrete or masonry. Recommended spacing of supports for vertical and horizontal raceways per NECA 1 (Standard for Good Workmanship in Electrical Construction) and/or by manufacturer should be followed.

3.25.7 Painting of fire alarm wires is not a recommended practice but widely encountered. Painted wires prohibit identification of the wiring. Means shall be provided to identify the marking and listing of the painted wires to the satisfaction of the inspector. In addition, provide a letter from manufacturer indicating that the UL Listing of the painted fire alarm cable is still applicable.

4.0 INSPECTIONS

4.1 Field inspections shall be scheduled only after a permit has been issued.

4.2 Inspections shall be scheduled by the installing contractor only. When scheduling for inspection, request for sufficient time to complete a thorough inspection of the work performed. Travel time is included in your inspection time. Inspections may be scheduled by calling (408) 535-3555.

4.3 SJFD prewiring and rough inspections shall be required **before drywall or other obstacles to the inspection are installed** for the following projects.

4.3.1 In all R-2 Occupancy buildings since the units will need to be pre-wired for future conversion.

4.3.2 In all projects that contain Emergency Communications Systems per NFPA 72, Chapter 24 to verify pathway survivability (Examples include In-building fire emergency voice/alarm communications systems, 2-way In-building wired emergency communication systems, 2-way radio communication enhancement systems, Area of refuge emergency communications systems)

4.4 Battery Test – When Standby & Alarm Battery test is required by SJFD, turn off power supply to the FACU and/or Communicator and/or any remote power supplies, at least 24 hours (or 60 hours for previously approved systems) prior to the scheduled inspection day. The 20 percent safety factor included in the battery capacity calculations (and any additional spare battery capacity) should allow for the battery test to be performed at any time on the day of SJFD inspection. Do not wait for the Inspector's call to determine what time you need to turn off the power. Provide printout from the central station that indicates AC fail/out on the day of SJFD inspection.

4.5 Inspections may be scheduled by calling (408) 535-3555. The following information is required:

4.5.1 Permit Number.

4.5.2 The amount of time required for inspection (including travel time).

4.5.3 Name and number of contact person.

4.6 Missed inspections or inspections canceled within 48 hours shall be counted against inspection time.

4.7 The installing contractor shall conduct a complete test of the system and shall complete all applicable parts of the "System Record of Completion" (NFPA 72, Figures 7.8.2(a) through 7.8.2(i)) prior to the SJFD inspection date.

4.8 **Reports:** Print-outs of the following reports shall be provided to the SJFD Inspector before commencing inspections. Inspections will not be done without these reports and shall be considered as missed inspections.

4.8.1 FACU generated Points List

4.8.2 Central Station Pre-Test Report

4.8.3 FACU History Report (when applicable)

4.8.3.1 The descriptions of the alarm and supervisory signal initiating devices on the FACU generated Points List and the Central Station Pre-Test Report should be exact (or as close as possible, to the satisfaction of the fire code official).

4.8.3.2 For addressable systems, identification of the type of alarm and supervisory initiating devices, such as manual, automatic, sprinkler waterflow, sprinkler tamper, fire-pump supervisory etc., shall be indicated clearly.

4.8.3.3 The descriptions of the initiating devices shall be meaningful and shall provide the room/area/space name, number, location, floor, direction, etc. The goal is to provide accurate description so that the fire department has the best possible information when responding.

4.8.3.4 Provide the print out of the FACU History report (in addition to the Points List and the Pre-Test Report), when initiating devices report only as zones ("General" alarm, trouble or supervisory signals) at the Central Station.

4.8.3.5 Clearly highlight all the "Alarm" and "Supervisory" signals (and not the "Restoral" Signals) on the Central Station Pre-Test Report and also on the FACU History Report.

4.9 At the time of inspection, the contractor shall hand the following to the SJFD inspector upon his/her arrival:

4.9.1 Approved and stamped plans and complete permit (white, pink, hard card).

4.9.2 A completed copy of all applicable portions of the "System Record of Completion".

4.9.3 As-built plans if installation has deviations from the approved plan.

4.9.4 All previous records of inspections.

4.9.5 UL certification for the fire alarm system if the system has 24 hour standby battery back-up.

Note: If any of the above is not provided, the inspection may be called-off and shall be considered a missed inspection.

4.10 During the Inspection by SJFD, there shall be a minimum of two technicians. One technician will be at the control panel while the other will be testing the devices. Two-way radios shall be provided and the technician at the panel shall communicate to the SJFD inspector which devices are activated on the panel.

4.11 Necessary coordination shall be made such that representatives of other contractors whose equipment are involved in the testing are present (i.e., fire/smoke damper, air handlers, elevator, fire pumps, emergency generators, etc.).

4.12 After the successful completion of the tests/inspections, provide the following to the SJFD inspector:

4.12.1 For central station service systems, a copy of the listing organization's certification that the installation complies with NFPA 72 or a copy of the placard from the listed central station certifying that the installation complies with NFPA 72. Permit shall not be finaled without this certificate or placard.

4.12.2 The permit card (for inspector's signature).

4.13 After final completion and acceptance of the project, the contractor shall provide the following to the owner:

4.13.1 All literature and instructions provided by the manufacturers describing proper operation and maintenance of all devices and equipment.

4.13.2 A copy of the Approved Plan and As-Builts.

4.13.3 A copy of the Certificate of Completion.

4.13.4 A copy of the site-specific software stored on-site in non-volatile, non-erasable, non-rewriteable storage media along with the user passcode.

4.13.5 The signed and finaled permit card.

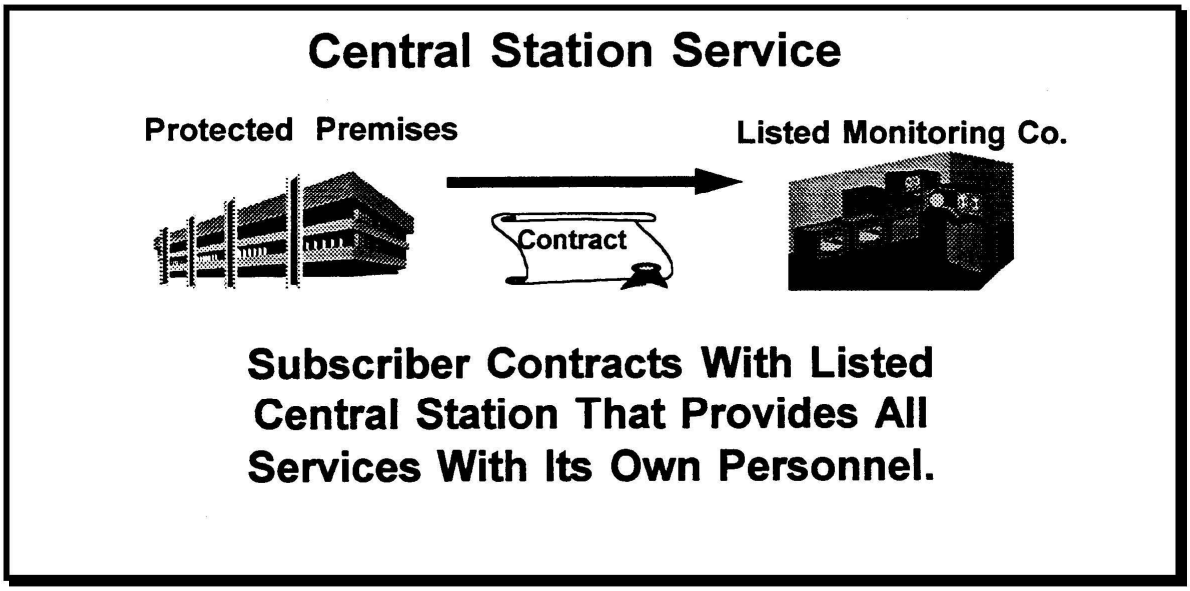
4.13.6 A documentation cabinet shall be provided to store all the above documentation. The documentation cabinet that shall be prominently labeled as "System Record Documents"

5.0 REVISIONS

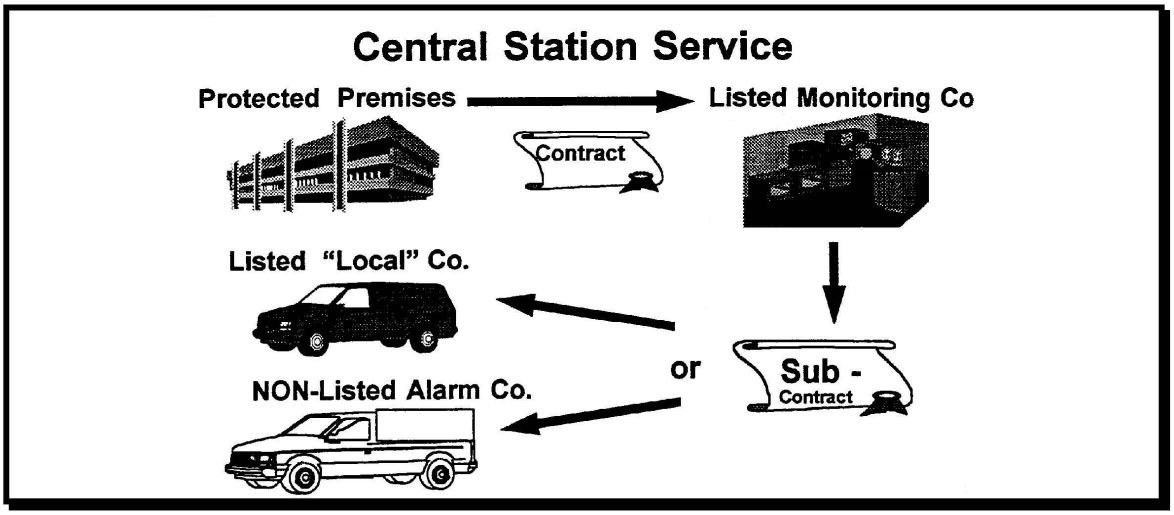
5.1 This document is subject to revisions. For general information and to verify that you have the most current document, please call (408) 535-7750, and request the current version date.

6.0 Supervising Station Service Examples

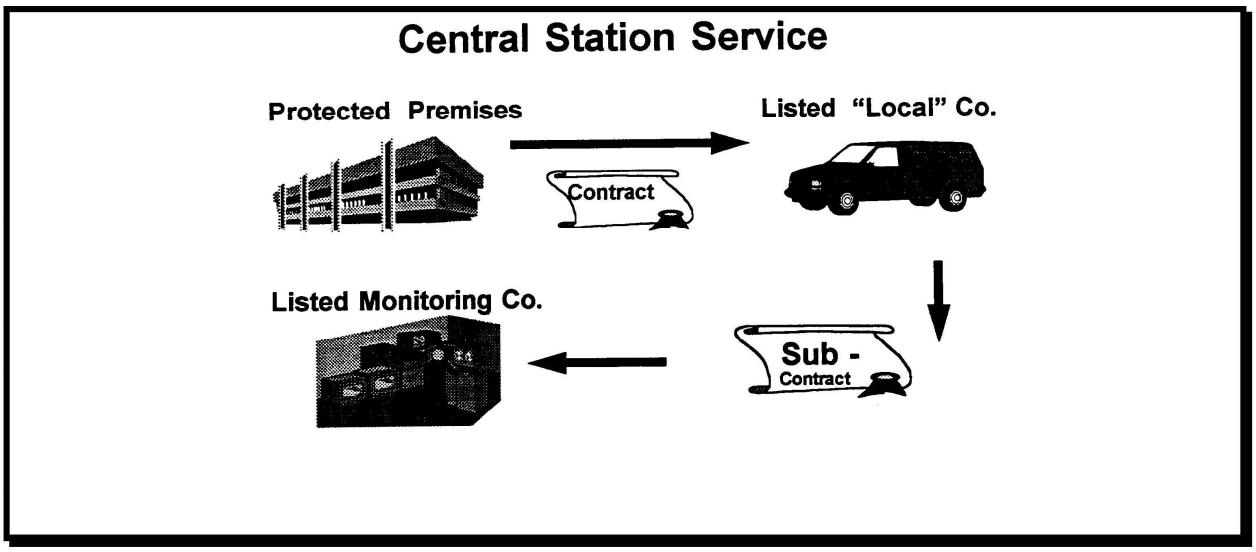
26.3.3 – The Prime Contractor is responsible to issue the Certificate for the Premises.



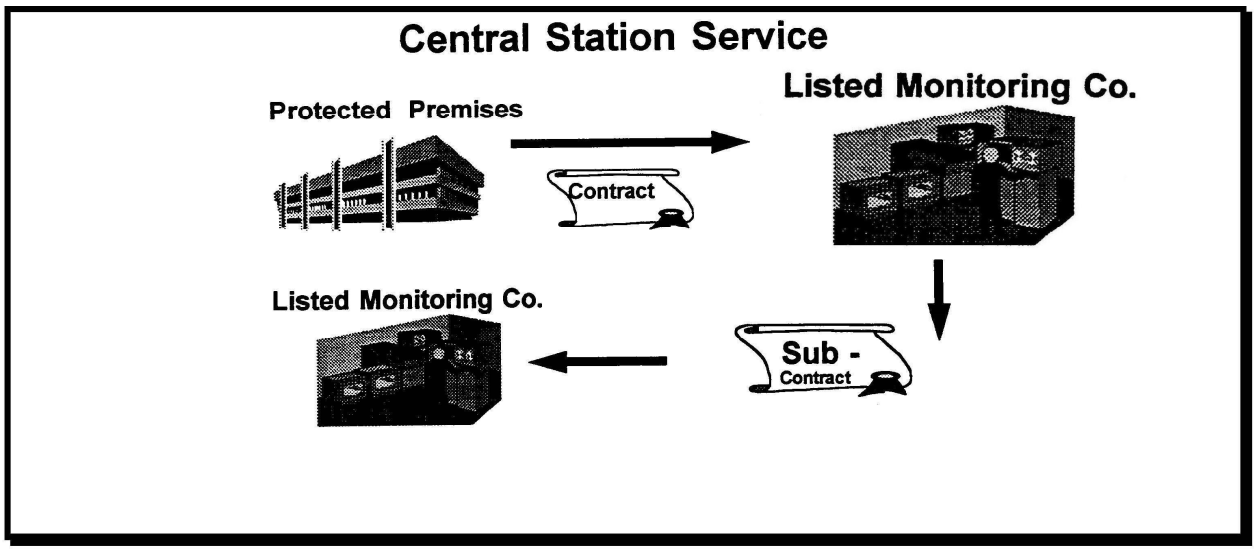
In the above example, the UL Listed Monitoring Company (listed as UUFX) directly contracts with the subscriber for ALL the NFPA 72 required services (Monitoring & Installation, signal processing, retransmission, dispatch, record keeping, testing, runner service and service & maintenance). In this case, the Listed Monitoring Company is the Prime Contractor. The Prime Contractor shall issue the UL Certificate when required by SJFD.



In the above example, a "UUFX" Listed Monitoring Company is subcontracting with either a Listed or Non-Listed Alarm Service Company. In this case, the Listed Monitoring Company is the Prime Contractor. The Prime Contractor shall issue the UL Certificate when required by SJFD.



In the above example, a "UUFX" Listed Local Alarm Service Company is subcontracting the monitoring related services to a Listed Monitoring Company. In this case, the Listed Local Alarm Service Company is the Prime Contractor. The Prime Contractor shall issue the UL Certificate when required by SJFD.



In the above example, a "UUFX" Listed Monitoring Company is subcontracting with another Listed Monitoring Company. In this case, the Listed Monitoring Company that has the direct contract with the Protected Premises is the Prime Contractor. The Prime Contractor shall issue the UL Certificate when required by SJFD.

Supervising Station Service UL Certificate Example

File No: S25110 CCN: UUFX
Service Center No: 1
Expires: 01/16/2013
Issued: 01/17/2012
Entry No: 5256332 Version: 7

CENTRAL STATION - FIRE
FIRE ALARM SYSTEM CERTIFICATE DESCRIPTION
FOR Certificate Serial No: FC27879748

Protected Property:
TEST PROPERTY 1
38 PHEASANT RUN
HAWTHORN WOODS, IL 60047

Alarm Service Company:
UL INTERNAL SYSTEM TESTING (NAV2)
DUMMY ACCOUNT TEST
333 PFINGSTEN RD
NORTHBROOK IL 60062-2096

System Description:
Area Covered: Building
Authority Having Jurisdiction: LZFD
Responding Fire Department: LZFD
Testing and Maintenance Contract date: 01/09/2012

SYSTEM DEVIATIONS FROM REFERENCED NFPA STANDARDS
None

Automatic Fire Detection and Alarm Service
Coverage is Total
6 - Smoke Detectors ; 3 - Ionization 3 - Photoelectric

Sprinkler System Waterflow Alarm and Supervisory Service
Sprinkler System Type: Wet Pipe
1 - Waterflow Switch
1 - Sprinkler Valve Supervisory Service

Manual Fire Alarm and Guard's Tour Supervisory Service
1 - Manual Fire Alarm Box

Alarm Notification and Annunciation Devices
3 - Audible/Visual Signals ; Type - Strobe

Emergency Voice Alarm Service
2 - Speakers

Control and Transmitter Unit
Acme,123

Remote Monitoring
UL Listed Central Station
File: S25110, Service Center Number: 1
UL INTERNAL SYSTEM TESTING (NAV2)
DUMMY ACCOUNT TEST
333 PFINGSTEN RD NORTHBROOK IL 60062-2096

Alarm Retransmission to Fire Department
Direct Telephone Line and Direct Telephone Line

Alarm Transmission Method: Digital Alarm Communicator