PURPOSE: This Interpretation of Regulations (IR) describes the Division of the State Architect (DSA) requirements for the complete or partial change of a fire alarm (F/A) system in an existing building due to obsolescence, catastrophic failure, voluntary upgrading, or as part of the change order process.

BACKGROUND: Typical fire alarm submittals consist of both the drawings and specifications of the various devices intended for installation. At times the fire alarm submittal will include a totally new system and at other times it will include only a portion of an existing system.

1. PROCESS: All changes to a fire alarm system (excluding maintenance and some repairs, as explained in Section 4) require DSA review. Upon completion of the changed (added, deleted, etc.) appliances, devices or system, that portion of the fire alarm system in the scope of work shall be inspected and tested as required by NFPA 72. Upon successful completion of the acceptance or reacceptance inspection and testing, an NFPA 72 Record of Completion form shall be completed by the fire alarm system contractor. A copy of the completed and signed form shall be given to the Architect or Engineer of Record, the Project Inspector, the Owner (School or Community College District) and the Local Fire Authority.

1.1 Total F/A System Replacement: Fire alarm systems in existing buildings that are replaced in their entirety must be compliant with current codes and standards and include extension to any previously unprotected areas. Fire alarm system plans shall be submitted to DSA when the total project cost exceeds the thresholds described in DSA IR A-10: Alteration and Reconstruction Projects – DSA Approval Exemption.

1.2 Partial System Exchange: It is not required to upgrade an entire building or campus fire alarm system (add in other devices or extend current system) when not totally replacing a system, but the basic submittal package must provide assurance in the form of a letter from the fire alarm design professional certifying that all components and/or devices of the system are compatible. Any new or added components or devices must meet current codes and standards, including CBC accessibility requirements. The system would not require expansion to all areas in the building(s) or campus. A DSA submittal package would be needed for the portion of the system(s) being changed when the projected dollar amount of the project exceeds the thresholds described in IR A-10.

2. Design Requirements: All areas undergoing modernization shall be required to meet current code requirements with additional appliances added to those areas as needed.

For example:

2.1 An accessibility upgrade to a restroom will require the extension of the initiating devices and occupant notification appliances into that restroom. Other portions of the building or campus F/A system would not need to be included in the project.

2.2 Conversion of an academic classroom to a science laboratory or other area containing hazardous uses or processes will require the room or area to meet current code, but would not trigger a complete upgrade of the fire alarm system for the entire building or campus.
2.3 When five of six classrooms in a building are being modernized, and a new power extender panel is also being added. Only the areas affected by the scope of work will be required to have an upgrade to the fire alarm system.

3. CHANGE TO SUBMITTED AND DSA APPROVED DOCUMENTS: Where construction plans and documents have been submitted and approved by DSA, but the accepted fire alarm bid package includes a different manufacturer and/or model for the fire alarm control panel (FACP), power extenders, appliances, devices, etc. then the following shall apply:

3.1 Where the system design has not changed (locations of appliances, routing of wire, extension of circuits, etc.) and the voltage draws of the substituted appliances and devices are the same as or less than those approved, a construction change document (CCD-A) shall be submitted to DSA.

The Architect or Engineer of Record shall provide:

3.1.1 A letter from the fire alarm system design professional certifying that the design has not significantly changed and the appliances and devices have equal or less voltage draws than those originally submitted, and

3.1.2 New component/device manufacturer’s product data sheets (cut sheets) and associated State Fire Marshal listing sheets for each appliance, device, etc.

3.2 Where substantial changes are made to the design or the voltage draws of the new manufacturer’s equipment are higher than those originally approved, then a “revision” or an “addendum” must be submitted to DSA for review and approval.

4. REPAIR AND MAINTENANCE:

4.1 Repair: Repair of an existing fire alarm system does not require submittal of plans, specifications or other documents to DSA, except as noted below:

4.1.1 Replacement of all devices and/or notification appliances: If all devices and/or notification appliances are to be replaced, Section 1.1 above would apply.

4.1.2 Replacement of the Fire Alarm Control Panel (FACP) compatible with existing appliances: A replacement FACP from a different manufacturer may be installed if documented as compatible with the existing notification appliances, components and devices. If the replacement FACP is not compatible, then Section 1.1 above would apply since all associated appliances would also need replacement.

4.2. Maintenance: Maintenance of an existing fire alarm system (removal and replacement of one device, appliance or the repair of a shorted wire) does not require submittal of plans to DSA.

5. RESOURCES: Several helpful documents have been provided on the DSA web site.

- DSA Interpretation of Regulations
  - IR A-6: Construction Change Document Submittal and Approval Process
  - IR A-18: Use of Construction Documents Prepared by Other Professionals
  - IR A-10: Alteration and Reconstruction Projects – DSA Approval Exemption
All are available in the DSA IR Manual.

- Also see State Fire Marshal (SFM) Information Bulletin 09-10-2008, “Fire Alarm Control Unit Replacement in Existing Buildings” at

REFERENCES:
  California Administrative Code (CAC), Section 4-215
  California Building Code (CBC), Section 907
  California Fire Code (CFC), Section 907
  SFM Information Bulletin, “Fire Alarm Control Unit Replacement in Existing Buildings”

This Interpretation of Regulations (IR) is intended for use by the Division of the State Architect (DSA) staff and by design professionals to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA which includes State of California public elementary and secondary schools (grades K-12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check DSA’s website for currently effective IRs. Only IRs listed on the web page at www.dgs.ca.gov/dsa/Resources/IRManual.aspx at the time of plan submittal to DSA are considered applicable.