

# **SECTION 13. FIRE SAFETY STANDARDS**

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This section describes the fire protection conditions and requirements that help the designer select appropriate fire protection equipment for the project. Each specific fire detection or suppression system selected should be explained in detail. The criteria shall be prepared and "signed off" by the base fire department (MIL HDBK-1008C and most current NFPA Standards as applicable).

## **13.1 EMERGENCY LIGHT AND POWER SYSTEMS**

Provide lead calcium batteries rather than nickel cadmium batteries for backup systems.

All exit signs shall be white with red letters, with properly oriented arrows when applicable. All internally illuminated signs must use low maintenance low energy consuming lighting. Light emitting diodes (LED) that actually spell out the word EXIT are required. Refer to Engineering Technical Letter (ETL) 91-5.

Emergency egress lighting shall be integral to overhead lights. Stand alone wall units are discouraged.

Alarm Panel, pull stations, and enunciators shall all be keyed the same. Simplex "B" key or Firelite 17003.

## **13.2 FIRE ALARM AND DETECTION SYSTEMS**

Utilize lead calcium rather than nickel cadmium batteries for fire alarm panels.

Ensure disconnect breaker is inaccessible to the public.

Provide dedicated locked out breaker for alarm panel.

Provide an alphanumeric graphic enunciator with keyed silence switch at entrances to facilities.

When existing detectors are hidden by a new drop ceiling, a detector light should be installed below the new ceiling to allow visibility from space below. All heat and smoke detectors will have a latching LED alarm.

The fire alarm control panel shall have the capability, of reporting alarm and trouble by zone as directed by AHJ. The initiating devices shall be Style D (Class A) The fire alarm control panel must also have "walk-test" capability. Submittals shall provide for the layout of all fire alarm system components.

All panels will come complete with software and training necessary for performing any in-house reconfigurations of the installed system. Training shall be performed by a true factory representative. The training of on site personnel should be the primary focus, with production of training videos and materials as a byproduct.

Provide a supervised override switch on all fire alarm panels where shut down of air handlers or electrical power is installed. This function will facilitate testing of the fire alarm system without shutting down equipment or power

#### **13.2.1 Fire Alarm Reporting System, Radio type**

Provide a radio fire alarm system for all new facilities. The system will be compatible with the Monaco D-700 RF central receiving system. The transceivers will require the antenna package (VHF omni directional antenna). The required frequency will be 138.2875. The radio system reports alarms to the central communication center. The system shall indicate the area of alarm and the radio link shall be supervised and operated using two way data transmission IAW NFPA 72 standards.

The contractor shall be certified by the Manufacturer.

The contractor shall have all the necessary equipment to install the Radio Transceiver i.e. Watt meter, Volt meter ,etc.

### **13.3 SPRINKLER SYSTEMS**

Sprinkler systems layout shall not be included in contract drawings. Shop drawings shall be submitted by the Contractor before construction proceeds. The designer and installer must be certified by the State of Idaho's Fire Marshal. Documents and specifications will be reviewed in accordance with MIL-HDBK-1008C, NFPA 13, and NFPA 24. All mechanical penetrations of fire-rated walls, roofs, floors, etc shall have barrier of equal or superior protection. If penetrations require the application of a sealant, as a minimum add a general reference on the drawings. All fire related design and specifications must be closely coordinated with the base fire department or Technical Services Branch (contact the Fire Prevention Office).

Where wet pipe sprinkler systems are installed, ensure non-heated areas have dry pendant sprinkler heads.

Alphanumeric graphic enunciator alarm panel and signals can be painted red or painted to match walls. Pull boxes must be painted red so that they can be easily seen.

#### **13.4 FIRE EXTINGUISHERS AND CABINETS**

Fire extinguisher cabinets must use recessed or semi-recessed mounted, 68.6 cm (27 in) high by 30.5 cm (12 in) wide by 20.3 cm (8 in) deep, non-lockable, and mounted 152.4 cm (60 in) from floor to top of cabinet. Cabinet color shall be brushed aluminum.

Fire ratings between wall shall be shown on the architectural floor plan either in a schedule or on the drawing itself (preferred method). This requirement will then be referenced on the mechanical and electrical sheets to ensure wall penetrations are sealed to maintain fire-rating integrity.

#### **13.5 MATERIAL FIRE RATINGS**

Interior finish material for exits, stairwells, corridors, and sleeping areas shall be Class A fire rated. Flame spread will be 25 or less; smoke development of 50 or less. All other areas Class B fire rated will have flame spread 75 or less; smoke development of 100 or less.

#### **13.6 FIRE HYDRANTS**

For new facility designs, determine the fire hydrant requirements. Refer to Engineering Technical Letter (ETL) 91-3 and MILHDBK-1008C for guidance.