5.08 Fire Service Access Elevators (FSAE) and Occupant Evacuation Elevators (OEE) (2025)

Reference: 2025 San Francisco Fire Code (SFFC) Section 511.1; 2025 San Francisco Building Code (SFBC) Sections 403.5.2, 403.6.1, 3007 & 3008; 2025 NFPA 72 Sections 21.5, A.21.5 & 21.6; 2022 ASME A17.1 Section 2.27.11; 2025 SFFD Administrative Bulletins 2.01 and 2.04.

Purpose: The purpose of this document is to provide for safeguards and fire safety features in high rise buildings such that the fire department has a more efficient means than stairs, and safer means than Phase II In-Car Emergency Operation by firefighters utilizing standard elevators. The FSAEs will provide firefighters with safe means for reaching and fighting fires and rescuing occupants on all floors of high-rise buildings. The OEEs will provide safe means for occupants to self-evacuate in tall buildings (in addition to stairs).

Scope:

1. **FSAEs.** Fire Service Access Elevators (FSAEs) shall apply to all new high-rise buildings more than 120 feet in height as defined by the SFBC Section 403.6.1. For those buildings covered by the scope of this document, the following shall apply for FSAEs:

    A. **Applicable Codes.** Both FSAEs shall comply with 2025 SFBC Sections 403.6.1 & 3007 and 2025 NFPA 72 Sections 21.5 & A.21.5.

    B. **Prohibited Elevators.** All hydraulic elevators and freight elevators are prohibited to serve as FSAEs.

    C. **Two FSAEs.** Two (2) FSAEs designed for firefighters use during fire emergencies are required to be provided in accordance with this Administrative Bulletin.

    D. **Associated Lobbies.** Both FASEs shall be provided with associated lobbies in accordance with 2025 SFBC Section 3007. All floors/levels in the building shall be served by both FSAEs and shall also be provided with enclosed lobbies per 2025 SFBC Section 3007.6.4.

    E. **Capacity and Size.** Each FSAE shall have a capacity of not less than 3,500 pounds and shall comply with 2025 SFBC Section 3002.4 (ambulance stretcher size).

2. **OEEs.** Occupant Evacuation Elevators (OEEs) shall be optional per 2025 SFBC Section 403.5.2 or for any other building, at the owner's request. The following shall apply for OEEs:

    A. **Applicable Codes.** OEEs shall be provided in accordance with 2025 SFBC Section 3008 and 2025 NFPA 72 Section 21.6.

    B. **Prohibited Elevators.** All hydraulic elevators and freight elevators are prohibited to serve as OEEs.

    C. **Occupant Evacuation Operation.** All traction passenger elevators in the building including the two required FSAEs, shall serve as OEEs and shall be provided with Occupant Evacuation Operation (OEO) per ASME A17.1-2022 Section 2.27.11.

Exception: When approved by SFFD on a case-by-case basis, shuttle traction passenger elevators serving 2-3 levels may be exempt from serving as OEEs.

I. PROTECTION FROM FIRE, HEAT, SMOKE AND WATER

FSAEs and OEEs shall be designed so that they are protected from the effects of fire, heat, smoke, or water. This will be accomplished through a performance-based design narrative submitted to SFFD for review and approval. The design narrative shall be authored by a qualified Professional Engineer licensed in the state of CA and shall be submitted at the Site Permit stage (Preliminary Narrative) and at the Architectural/Mechanical stage (Final Narrative). The design shall include, but is not limited to, the following:

1. **Protection of Associated Elevator Areas.** Protection of the FSAE/OEE hoistways, their associated Elevator Machine Rooms (EMR), or Elevator Control Rooms (ECR) and associated enclosed FSAE/OEE lobbies are required. The following items shall apply:

   A. **Smoke Control Report.** The protection (from smoke) of these associated FSAE/OEE areas and spaces shall be described on the smoke control report, reviewed and approved separately by SFFD.

   B. **Rooms/Spaces.** Occupied or non-occupied rooms or spaces shall not be permitted to open into the FSAE/OEE lobby in any occupancy (such as electrical rooms, mechanical rooms, storage rooms, telecommunication rooms, office rooms, residential rooms, etc.).

2. **Trench Drain.** The intention of the trench drain is to prevent water intrusion to the FSAE/OEE hoistway(s) from sprinkler(s) activation on upper floors and/or at the ground floor. The following items shall be required for the trench drain:

   A. **Location.** A trench drain at all FSAE/OEE lobby door openings shall be located at the floor side of the lobby door (outside the FSAE/OEE lobby). On the ground floor, where an enclosed FSAE/OEE lobby is not required, trench drains shall also be provided at the FSAE/OEE non-enclosed lobby opening or at other approved location(s).

   B. **100 GPM Flow.** At a minimum, the trench drain shall be designed to accommodate a 100 GPM flow of the automatic fire sprinklers in areas located outside the FSAE/OEE lobbies. The required drainage is not intended to accommodate water from sprinklers flowing within the FSAE/OEE lobbies.

   C. **Accessibility.** The design shall not violate accessibility requirements in regards to level landing or threshold heights.

   D. **1/2 Inch Threshold.** A 1/2 inch threshold shall be provided for each trench to prevent water from passing into the lobbies over the trench grates.

3. **Waterproofing System.** An approved water proofing system around all hoistway and FSAE/OEE lobby walls on all levels shall be provided to prevent water from infiltrating into the FSAE/OEE hoistways between the walls and floor assemblies. The water proofing system shall be provided around the hoistway and FSAE/OEE lobby walls for a minimum of six (6) inches height above the finished floor.

4. **Keeping Appropriate Temperature.** Provisions for keeping elevator equipment at the appropriate temperature to sustain operation for the length of time the building generator is designed to operate (8 hours minimum). This may require a careful review of the equipment, its operating temperatures, the HVAC system and the standby power system required for all other life safety systems in the building.

5. **Driving Machines in Hoistway.** All Machine-Room-Less (MRL) FSAE/OEEs in all occupancies, having their driving machines located inside the hoistway(s) shall have an approved venting to the exterior of the building in accordance with 2025 CBC Section 3003.4. This shall be detailed on associated architectural and mechanical permit plans.

   Exception: Where hoistway pressurization method is approved and provided, hoistway venting shall not be required for that specific hoistway(s) only. Hoistway pressurization shall not be approved in lieu of FSAE/OEE lobbies.

6. **FSAE/OEE Status Panel.** An approved means for firefighters to monitor heat conditions in FSAE/OEE lobbies and associated machine/control rooms, utilizing an analog heat sensing system, or a listed 2-temperature-stages heat detectors, shall be provided on a FSAE/OEE status panel located in the FCC. This status panel is intended to provide firefighters with more information to determine whether the FSAE/OEE protection has been compromised. The status panel shall comply with 2025 NFPA 72 Section 21.5, A.21.5 & 21.6 and 2025 SFBC Section 3008.

II. PRESCRIPTIVE REQUIREMENTS

The design shall include the following prescriptive requirements:

1. **Smoke Control.** FSAE/OEE hoistways, lobby, and machine room smoke control mechanical components used to protect the FSAE/OEEs shall be protected in accordance with smoke control system requirements as described in the smoke control report based on 2025 SFDBI AB #047 and 2025 SFBC Section 909 and shall be included in UUKL weekly self-testing of smoke control components. This system shall be illustrated and controllable at the Firefighter's Smoke Control Panel (FFSCP) located in the FCC.

2. **Applicable Codes.** The FSAE/OEEs and their installation shall conform to the currently adopted California Elevator Code: CCR Title 8 Elevator Safety Orders (ESO) and its adopted national elevator code - ASME A17.1 and specific CA Elevator Regulations. A variance permit may be required by the California Elevator Unit to comply with a more recent edition of the ASME A17.1 code and specific sections associated with FSAEs and OEEs.

3. **Power Transfer Switches.** Power transfer switches for FSAE/OEEs shall be located as close as practicable to the motors and controls they supply. The normal power feeders and the standby feeders supplying the transfer switches shall be by independent routes, and shall comply with the 2025 San Francisco Electrical Code.

4. **FSAE Hoistway Lighting.** The following shall apply for FSAE hoistway lighting:

   A. **1 Foot-Candle.** The entire FSAE hoistway shall be illuminated at not less than 1 foot-candle (11 lux) as measured from the top of the car of each fire service access elevator when in Phase I Manual or Automatic Emergency Operation and during Phase II Firefighter's in-car Emergency Operation.

   B. **Standby Power.** This lighting shall be provided with standby power.

   C. **Manual Switch.** A separate manual switch to activate the hoistway lights shall be provided on the FSAE Status Panel at the FCC.

   D. **Output from FSAE System.** The FSAEs vendor shall provide an output from the FSAE system indicating when the FSAEs are in Phase I Emergency Recall Operation.

   E. **Turn Off Automatically.** The FSAE hoistway lights shall turn off automatically when the FSAEs are returned to normal service operation.

5. **Standby Power.** All OEEs shall run simultaneously on generator backup power. The following features serving each FSAE/OEEs shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:
   A. Elevator Equipment (simultaneous use for both FSAEs and all OEEs).
   B. FSAE Hoistway Lighting.
   C. Elevator Machine or Control Room Ventilation and Cooling Equipment.
   D. Elevator Controllers Cooling Equipment.

6. **2-Hour Fire Rated Cables/Wires.** Wires or cables that provide normal and standby power, control signals, communication with the car, lighting, heating, air conditioning, ventilation and fire/smoke and heat-detecting systems to the FSAEs/OEEs, shall be protected by construction having a minimum 2-hour fire resistance rating or shall be circuit integrity cables in conduit (CIC) having a minimum 2-hour fire-resistance rating.

7. **Monitoring of Elevators.** The FSAE/OEEs shall be continuously monitored at the FCC per 2025 NFPA 72 Section 21.5, A.21.5 and 21.6, 2025 SFBC Section 3008, and ASME A17.1-2022 Section 2.27.11. The elevator vendor shall provide the elevator monitoring system and the fire alarm system vendor shall provide the FSAE Status Panel. Coordination must take place between the elevator and fire alarm system contractors/vendors.

8. **Smoke Detection for MRL Elevators.** Where Machine Room-less(MRL) elevators are utilized as FSAE/OEEs, a smoke detection system utilizing air sampling type smoke detectors, or other approved smoke detection devices accessed from outside the hoistway through an approved access hatch door, shall be provided at the top of the hoistway in an approved location.

9. **Communication Coverage.** Emergency responders communication coverage with 99% signal strength shall be provided in all FSAE/OEE cars to provide radio communication between the FSAE/OEE cars and the FCC.

10. **Fire Command Center (FCC).** The FCC shall be located and constructed in accordance with the 2025 SFFC Section 508.

11. **FSAEs in Residential High-rises.** In Residential high-rises (R-1 and R-2 Occupancies) where FSAEs are required, each entrance to the FSAE lobby serving a residential floor is required to have a protected path of travel between the FSAE lobby and the exit stair or exit passageway. Only in the garage/basement level(s), one entrance to the FSAE lobby is required to have a protected path of travel.

12. **FSAE Symbol.** Designated FSAEs shall be identified with the symbol for fire department operation (firefighter's hat symbol). The following shall apply for the FSAE Symbol:

    A. **Mounting Height.** Each symbol shall be not less than 78 inches, and not more than 84 inches above the floor level at the threshold.

    B. **Symbol Color and Size.** It shall be a white helmet symbol on a black background, 3-inches tall metal sign with the same ratio between the hat size to background as specified in 2025 SFBC Section 3007.6.5.

    C. **Location.** The FSAE sign shall be installed on each side of every FSAE entrance on every floor, on the hoistway door frame, per the specific height requirements indicated in SFBC Section 3007.6.5.

13. **"Ambulance Stretcher" Size Car and Symbol.** Per 2025 SFBC Section 3002.4, each FSAE shall be provided with an "Ambulance Stretcher" size car. An associated international symbol of emergency medical services (star of life) shall be provided for each FSAE. This symbol is required on every level and both sides of each FSAE elevator hoistway door frame.

14. **Prohibited Areas for Sprinklers.** Automatic fire sprinklers are prohibited in all the following FSAE/OEE spaces:
    A. Machine or Control Rooms.
    B. Associated Machinery Spaces.
    C. The Bottom (Pit) and Tops of Associated FSAE/OEEs Hoistways.

15. **Shunt Trip Prohibited.** Shunt Trip function is prohibited for all FSAE/OEEs.

16. **Storage Prohibited.** The storage of combustible materials in any elevator machine or control room and lobbies is prohibited. SFFD will consider the building to be equipped throughout with an automatic sprinkler system if all other areas are sprinklered in accordance with the 2025 NFPA 13.

17. **Submittal Requirements.** The following items shall be required for submittal of FSAE/OEE:

    A. **Design Narrative.** All FSAEs/OEEs designs shall be described in an FSAE/OEE design narrative, written by either the smoke control author or by other qualified Professional Engineer.

    B. **Narrative Submittal.** The preliminary FSAE/OEE design narrative shall be submitted for SFFD review at the site permit stage of the project. A final FSAE narrative shall be submitted at the architectural and mechanical permit stage. This narrative shall include a description of the proposed strategy for the FSAE/OEE protection and will include justification for the performance criteria.

    C. **Professional Engineer.** The FSAE/OEE design narrative shall be authored by a qualified Professional Engineer who is licensed in the State of California. This individual shall take responsibility for describing the safety features of the building that will protect the elevator under the requirements of this document.

18. **FSAE/OEE Addendum Submittal.** All FSAE/OEE projects shall include a separate FSAE/OEE submittal as the last addendum to the site permit. The purpose of the FSAE/OEE addendum is mainly for record keeping. No work is required to be performed under this addendum.

    A. **Addendum Information.** This addendum shall incorporate all approved associated FSAE/OEE sheets from the architectural and MEP addenda.

    B. **Narrative Author.** The FSAE/OEE narrative author shall be responsible to review this submittal to ensure all FSAE/OEE protection features described in the narrative are provided on associated approved permit plans. A compliance review stamp and signature shall be provided by the FSAE/OEE narrative author on the cover sheet of all FSAE/OEE addendum submittals.