

[Changing local building standards related to elevators for specified high-rise structures.]

Ordinance amending the San Francisco Fire Code by amending Section 9001.1.4 to exempt certain high-rise structures having a fire-safe elevator from requirements for a self-contained breathing air replenishment system; amending the San Francisco Fire Code by adding Section 9001.15 to change local building standards to require that certain high-rise structures include an elevator safe for Fire Department use under fire conditions; making findings as to local conditions pursuant to California Health and Safety Code Section 17958.7; and making environmental findings.

Note: Additions are single-underline italics Times New Roman;
deletions are ~~strikethrough italics Times New Roman~~.
Board amendment additions are double underlined.
Board amendment deletions are ~~strikethrough normal~~.

Be it ordained by the People of the City and County of San Francisco:

Section 1. **Environmental Findings.** The Planning Department has determined that the actions contemplated in this Ordinance are in compliance with the California Environmental Quality Act (California Public Resources Code sections 21000 et seq.). Said determination is on file with the Clerk of the Board of Supervisors in File No. _____ and is incorporated herein by reference.

Section 2. **Findings.** The City and County of San Francisco is unique among California communities with respect to the causes and effects of fires in high-rise buildings. Among other things, (1) San Francisco is located on an active seismic zone; (2) certain buildings in San Francisco are at an increased risk for earthquake-induced failure and

1 consequent fire because of local hazardous microzones, slide areas, and local liquefaction
2 hazards; (3) additional fire, structural and other protections are required due to high building
3 density and high occupancy in many buildings; and (4) San Francisco has narrow and
4 crowded sidewalks due to building and population density and unusual topography. Because
5 of the great density of buildings, occupants, and pedestrians in San Francisco, fires in San
6 Francisco can be especially devastating.

7 Several areas in San Francisco are increasingly experiencing high-rise and super-high-
8 rise development. Certain buildings in the planning stages are slated to reach over 30 stories,
9 with some reaching over 100 stories. Because of their height and location within San
10 Francisco, these buildings present unique fire-safety concerns.

11 The speed with which firefighters are able to reach a fire at the top floors of a building
12 correlates with increased public safety and building survival. Studies by the National Fire
13 Prevention Association show that it takes a firefighter in full gear an average of two minutes to
14 ascend each floor in a high-rise building. In a 20-story building, it would take a firefighter
15 approximately forty minutes to reach the top floor using the stairs. In a 100-story building, it
16 could take a firefighter up to three hours to reach the top floors using the stairs. Despite the
17 time required to reach a fire using the stairs, firefighters are reluctant to use an elevator during
18 fire conditions due to concerns that the elevator may malfunction or present a safety risk. An
19 elevator can be designed, however, in a manner that will divert water, smoke and heat away
20 from the elevator, making it more likely to be safe for use under fire conditions.

21 An elevator that is safe for use by firefighters during fire conditions will drastically
22 decrease the time it takes firefighters to reach the top floors of a high-rise or super-high-rise
23 building. When they reach the fire site, firefighters will not be fatigued from climbing. Using
24 an elevator, firefighters can also quickly transport air bottles and other equipment necessary
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1 in a fire, greatly assisting the fire fighting effort. Using an elevator, the Fire Department can
2 rotate personnel fighting the fire, which enhances firefighter safety. Fire growth, time and
3 temperature curves, and firefighter exhaustion considerations justify the need for providing an
4 elevator that is designed so it can likely be usable under fire conditions. In addition, an
5 elevator that is safe under fire conditions can be used to more readily transport injured or
6 nonambulatory persons from the top floors of high-rise and super-high-rise structures under
7 fire conditions.

8 California Health and Safety Code Section 13216 permits the City and County to
9 impose greater restrictions with respect to high-rise structures than are imposed by the State
10 building standards related to fire or panic safety or the regulations of the State Fire marshal.
11 Consistent with such authorization, and recognizing the above-stated unique fire safety
12 characteristics of high-rise and super-high-rise structures in San Francisco, this ordinance is
13 enacted with the purpose of protecting occupants of those buildings, as well as the general
14 public and firefighters, and minimizing building and other property damage cause by fire.

15 California Health and Safety Code Sections 17958 and 17958.5 allow the City to make
16 changes or modifications in the requirements contain in the provisions published by the
17 California Building Standards Commission, including the California Fire Code, when those
18 changes or modifications are reasonably necessary because of local climatic, geological or
19 topographical conditions. California Health and Safety Code Section 17958.7 provides that
20 before making any such changes or modifications, the governing body must make an express
21 finding that such changes or modifications are reasonably necessary because of the specified
22 local conditions, and those finding shall be filed with the California Building Standards
23 Commission. Pursuant to the applicable California Health and Safety Code Section, the
24 Board of Supervisors finds and determines that the conditions described above constitute a
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1 general summary of the most significant local conditions giving rise to the need for variance
2 from the California Fire and Building Codes and any other applicable provisions published by
3 the California Building Standards Commission. Further, the Board of Supervisors finds and
4 determines that the proposed variances are reasonably necessary based on these local
5 conditions, and that these conditions justify more restrictive standards applicable to high-rise
6 and super-high-rise structures in San Francisco. The Clerk of the Board of Supervisors is
7 hereby directed to transmit this legislation, upon its final passage, to the California Building
8 Standards Commission and the State Fire Marshal for filing, pursuant to the applicable
9 provisions of California law.

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11 Section 3. The San Francisco Fire Code is hereby amended by amending
12 Section 9001.1.4 to read as follows:

13 **SEC. 9001.1.4. LOCAL STANDARDS FOR HIGH RISE BUILDINGS AND TUNNELS.**

14 A self-contained breathing air replenishment system shall be installed in all buildings
15 having floors used for human occupancy located more than 75 feet (22 860 mm) above the
16 lowest level of fire department vehicle access. This requirement shall apply for all buildings
17 meeting this definition when the building permit application for construction was made after
18 March 30, 2004.

19 *EXCEPTION: Any building that includes an approved elevator under Fire Code*

20 *Section 9001.1.5.*

21 A self-contained breathing air replenishment system will provide a supply of
22 pressurized breathing air through a permanently installed piping distribution system for the
23 replenishment of portable breathing air equipment.

1 The self-contained breathing air replenishment system shall be installed in all new
2 underground transportation or pedestrian tunnels exceeding 300 feet (91 440 mm).

3 The Fire Department is authorized to issue and update as warranted an Administrative Bulletin
4 setting specifications for the Self Contained Breathing Air Replenishment System required under this
5 Section. The self contained breathing air replenishment system shall meet the specifications set forth
6 in Appendix VI J, Section 7.08 Self Contained Breathing Air Replenishment System.

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8 Section 4. The San Francisco Fire Code is hereby amended by adding
9 Section 9001.1.5 to read as follows:

10 **SEC. 9001.1.5. LOCAL ELEVATOR STANDARDS FOR BUILDINGS 200 FEET OR MORE IN**
11 **HEIGHT; SPECIAL ELEVATOR REQUIREMENT.**

12 (a) Buildings 200 feet or more in height as defined by the California Building Code shall
13 include at least one elevator approved by the Fire Department for firefighter use under fire conditions.
14 This Section shall apply to all building meeting this definition when the building permit application for
15 construction is made on or after the effective date of this ordinance.

16 EXCEPTION: Buildings with multiple bank elevators that serve no more than 20 consecutive
17 floors each, whereby firefighters may ascend the building in 20 floor intervals in separated
18 hoistways. Pursuant to Section 9001.1.4, such buildings shall have a firefighter air
19 replenishment system.

20 (b) An elevator required under this Section shall be designed to divert water, smoke, and heat
21 from the elevator shaft during fire conditions, and shall meet specifications set forth in a Fire
22 Department Administrative Bulletin. The Fire Department is authorized to issue and update as
23 warranted an Administrative Bulletin setting specifications for the buildings required to comply with
24 this Section and the requirements for the elevator.

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2 APPROVED AS TO FORM:
3 DENNIS J. HERRERA, City Attorney

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5 By: KATHARINE HOBIN PORTER
6 Deputy City Attorney
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