WAC 51-54A-4900

Fixed guideway transit and passenger rail systems.

4901 Scope NFPA 130.

4901.1 General. Fixed guideway transit and passenger rail systems shall be in accordance with NFPA 130, as modified below.

4901.2 NFPA 130 add new Section 3.3.44.~~2~~1. Add new definition as follows:

3.3.44.~~2~~1 Traction power sub station (TPSS): A TPSS is an electrical substation consisting of switchgear transformers/rectifiers, emergency trip equipment, and other systems that converts AC electric power provided by the electrical power industry for public utility service to DC voltage to supply light rail vehicles with traction current.

4901.~~6~~3 NFPA 130 Section 5.2.2. Modify NFPA 130 Sections 5.2.2.1 and 5.2.2.2 as follows:

5.2.2.1 Building construction for stations shall be in accordance with **Table 5.2.2.1** based on the station configuration.

TABLE 5.2.2.1

MINIMUM CONSTRUCTION REQUIREMENTS FOR NEWSTATION STRUCTURES

STATION CONFIGURATION	CONSTRUCTION TYPE†
Stations erected entirely above grade and in a separate building:	
Open stations	**Type IIB**
Enclosed stations	**Type IIA**
Stations erected entirely or partially below grade:	
Open above grade portions of below grade structures*	**Type IIA**
Below grade portions of structures	**Type IB**
Below grade structures with occupant loads exceeding 1000	**Type IA**

***Roofs not supporting an occupancy above are not required to have a fire resistance rating.**

†Construction types are in accordance with the International Building Code.

5.2.2.2 Construction types shall conform to the requirements in the International Building Code, Chapter 6, unless otherwise exempted in this section.

4901.~~74~~ NFPA 130 Section 5.2.~~24~~. Modify NFPA 130 Sections 5.2.4.2, 5.2.4.3 and 5.2.4.5 as follows:

5.2.4.2* Separation Between Public and Nonpublic Floor Areas. All public areas shall be ~~fire-~~ separated from adjacent nonpublic areas in accordance with International Building Code Section 508 (occupancy separations) and Section 509 (incidental use) and by at least a one-hour fire barrier for enclosed stations.

5.2.4.3 Ancillary spaces. Fire resistance ratings of separations between ancillary occupancies shall be established as required for accessory occupancies and incidental uses by the International Building Code and in accordance with ASTM E119 ~~and~~ or ANSI/UL 263.

5.2.4.5* Separation Between System and Nonsystem Occupancies. All station public areas shall be ~~fire~~ separated from adjacent non-system occupancies in accordance with the International Building Code 508 (occupancy separations) and Section 509 (incidental use) and by at least a onehour fire barrier for enclosed stations.

4901.~~85~~ NFPA 130 Section 5.2.5. Modify NFPA 130 Section 5.2.5.4 as follows:

5.2.5.4 Materials used as interior finish in open stations shall comply with the requirements of the International Building Code, Chapter 8.

4901.~~96~~ NFPA 130 Section 5.3.1. Modify NFPA 130 Section 5.3.1.1 as follows:

5.3.1.1 The provisions for means of egress for a station shall comply with the *International Building Code*, Chapter 10, except as herein modified.

4901.~~107~~ NFPA 130 Section 5.3.2. Modify Sections 5.3.2.1 and 5.3.2.2 and ~~A~~add a New Section to NFPA 130 Section 5.3.2.2.1 as follows:

5.3.2.1 The occupant load for a station shall be based on the train load of trains simultaneously entering the station on all tracks in normal traffic direction plus the simultaneous entraining load awaiting trains.

1. The train load shall consider only one train at any one track, inside a station.

2. The basis for calculating train and entraining loads shall be the peak period ridership figures as projected for design of a new system or as updated for an operating system.

5.3.2.2* For station(s) servicing areas such as civic centers, sports complexes, and convention centers, the peak ridership figures shall consider events that establish occupant loads not included in normal passenger loads.

5.3.2.2.1 Where station occupancy is anticipated to be greater than design capacity during a major event the operating agency shall initiate approved measures to restrict access to the station, when required by the fire code official, to ensure existing means of egress are adequate as an alternative to account for peak ridership associated with major events.

4901.~~118~~ NFPA 130 Section 5.3.2.4. Modify NFPA 130 Section 5.3.2.4(1) as follows:

5.3.2.4 Where an area within a station is intended for use by other than passengers or employees, the following parameters shall apply:

1. The occupant load for that area shall be determined in accordance with the provisions of the IBC ~~NFPA 101~~ as appropriate for the use.

2. The additional occupant load shall be included in determining the required egress from that area.

3. The additional occupant load shall be permitted to be omitted from the station occupant load where the area has independent means of egress of sufficient number and capacity.

~~**(1)** The occupant load for that area shall be determined in accordance with the provisions of the International Building Code as appropriate for the use.~~

4901.~~129~~ NFPA 130 Section 5.3.3. Modify NFPA 130 Section 5.3.3.4 as follows:

5.3.3.4 Travel distance. For open stations the maximum travel distance on the platform to a point at which a means of egress route leaves the platform shall not exceed 100 m (325 ft.). For enclosed stations the travel distance to an exit shall not exceed 76 m (250 ft.).

4901.~~13~~10 NFPA 130 Section 5.3.5. Modify NFPA 130 Section ~~5.3.5.3(2)~~ 5.3.5.4 as follows:

~~(2)* Travel speed - 14.6 m/min (48 ft./min) (indicates vertical component of travel speed).~~

~~**5.3.2.4** Where an area within a station is intended for use by other than passengers or employees, the following parameters shall apply:~~

~~1. The occupant load for that area shall be determined in accordance with the provisions of the IBC NFPA 101 as appropriate for the use.~~

~~2. The additional occupant load shall be included in determining the required egress from that area.~~

~~3. The additional occupant load shall be permitted to be omitted from the station occupant load where the area has independent means of egress of sufficient number and capacity.~~

5.3.5.4 Escalators shall not account for more than one-half of the egress capacity at any one level.

4901.14 NFPA 130 Section 5.3.5.5. Delete NFPA 130 Section 5.3.5.5.

4901.15 NFPA 130 Section 5.3.7. Modify NFPA 130 Section 5.3.7, 5.3.7.1 and add 5.3.7.2.1 as follows:

5.3.7* Doors, gates, security grilles and exit hatches.

5.3.7.1 The egress capacity for doors and gates in a means of egress serving public areas shall be computed as follows:

1. Sixty people per minute (p/min) for single leaf doors and gates.

2.* 0.0819 p/mm-min (2.08 p/in.-min) for ~~biparting~~ multileaf doors and gates that do not have a center mullion measured for the clear width dimension.

5.3.7.2.1 Security grilles are allowed when designed and operated in accordance with the International Building Code.

4901.16 NFPA 130 SECTION 5.3.8.5. Modify NFPA 130 Section 5.3.8.5 as follows:

5.3.8.5 Turnstile-type fare barriers in accordance with the International Building Code ~~NFPA 101~~ shall be permitted in the means of egress and shall meet the following criteria:

(1) Dimensions shall be in accordance with the requirements of the International Building Code ~~NFPA 101~~.

(2) Turnstiles that drop away from the egress opening under the conditions listed in 5.3.8.2 or 5.3.8.3 shall be credited with a capacity of 50 p/min for egress calculations.

(3) Turnstiles that revolve freely in the direction of egress under the conditions listed in 5.3.8.2 shall meet the following criteria:

(a) Each unit shall be credited with a capacity of 25 p/min for egress calculations.

(b) The turnstiles shall not account for more than 50 percent of the required egress capacity for each egress route.

(4) Security access turnstiles shall meet the requirements of the International Building Code.

4901.167 NFPA 130 Section 5.3.9. Modify NFPA 130 Section 5.3.9 as follows:

5.3.9* Horizontal exits. Horizontal exits shall comply with the International Building Code Section 1026.

4901.178 NFPA 130 Section 5.3.11. Modify NFPA 130 Section 5.3.11 as follows:

5.3.11.1 Illumination of the means of egress in stations, including escalators that are considered a means of egress, shall be in accordance with the International Building Code Section 1008.

5.3.11.2 Means of egress, including escalators considered as means of egress, shall be provided with a system of emergency lighting in accordance with the International Building Code Section 1008.

5.3.11.3 In addition to the requirements of Sections 5.3.11.1 and 5.3.11.2:

1. Lighting for stairs and escalators shall be designed to emphasize illumination on the top and bottom steps and landings.

2. Where newel- and comb-lighting is provided for escalator steps, such lighting shall be on emergency power circuits.

4901.~~3~~19 NFPA 130 Section 5.4.4

Modify NFPA 130 Sections 5.4.4.1 and add new section 5.4.4.1.1 and modify section 5.4.4.2 to read as follows:

5.4.4.1 ~~Automatic sprinkler protection shall be provided in all areas of stations except:~~ An automatic sprinkler system shall be provided throughout enclosed stations.

Exceptions:

~~1. Areas used for public circulation~~

~~2. Trainways within stations~~

1. Traction power substation (TPSS) when located in a transformer vault designed in accordance with the NFPA 70.
2. Other high voltage equipment located in a transformer vault designed in accordance with the NFPA 70 when approved by the fire code official.
3. Fire command centers, communication room(s), and signal rooms when protected with clean agent fire suppression and separated from other spaces with 2-hour fire-rated construction.
4. Other operational critical rooms when protected with clean agent fire suppression and separated from other spaces with 2-hour fire-rated construction, when approved by the fire code official.

5.4.4.1.1 An automatic sprinkler system shall be provided in areas of open stations used for concessions, markets, storage areas and similar areas with combustible loadings, and in trash rooms, electrical rooms, mechanical rooms, machinery rooms, communication rooms, and other enclosed rooms.

Exceptions:

1.Stations at grade with less than 1,500 square feet (139 m^2) of ancillary area/ancillary space.

2.Fire command centers, communication room(s), and signal rooms when protected with clean agent fire suppression and separated from other spaces with 2-hour fire-rated construction.

3.Other operational critical rooms when protected with clean agent fire suppression and separated from other spaces with 2-hour fire-rated construction, when approved by the fire code official.

5.4.4.2 Sprinkler protection shall be permitted to be omitted in areas of open stations separated from the station by a distance of 20 feet (6096 mm).

4901.~~18~~20 NFPA 130 Section 5.4.7. Modify NFPA 130 Section 5.4.7 as follows:

5.4.7 Emergency ventilation shall be provided in enclosed stations in accordance with Chapter 7 and the International Building Code Section 909.

4901.21 NFPA 130 Section 6.3.3.10. Modify NFPA 130 Section 6.3.3.10 as follows:

6.3.3.10 Exit stairs and doors shall comply with the International Building Code, Chapter 10, ~~Chapter 7 of NFPA 101,~~ except as herein modified.

4901.22 NFPA 130 Section 6.3.5.12. Modify NFPA 130 Section 6.3.5.12 as follows:

6.3.5.12 Lighting systems for enclosed trainways shall be installed in accordance with the International Building Code, Section 1008 and 1013. ~~Sections 7.8 and 7.9 of NFPA 101, except as otherwise noted in 6.3.5.~~