

CHAPTER 27

ELECTRICAL

SECTION 2701 GENERAL

2701.1 Scope. This chapter governs the electrical components, equipment and systems used in buildings and structures covered by this code. Electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of this code and NFPA 70.

2701.1.1 Changes to NFPA 70. The following change shall be made to NFPA 70:

1. Change Sections 334.10(2) and 334.10(3) of NFPA 70 to read:
 - (2) Multifamily dwellings not exceeding four floors above grade and multifamily dwellings of any height permitted to be of Types III, IV and V construction except in any case as prohibited in 334.12.
 - (3) Other structures not exceeding four floors above grade and other structures of any height permitted to be of Types III, IV and V construction except in any case as prohibited in 334.12. In structures exceeding four floors above grade, cables shall be concealed within walls, floors or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated assemblies.

For the purpose of Items 2 and 3 above, the first floor of a building shall be that floor that has 50 percent or more of the exterior wall surface area level with or above finished grade. One additional level that is the first level and not designed for human habitation and used only for vehicle parking, storage or similar use shall be permitted.

2701.1.2 Temporary connection to dwelling units. The building official shall give permission to energize the electrical service equipment of a one- or two-family dwelling unit when all of the following requirements have been approved:

1. The service wiring and equipment, including the meter socket enclosure, shall be installed and the service wiring terminated.
2. The grounding electrode system shall be installed and terminated.
3. At least one receptacle outlet on a ground fault protected circuit shall be installed and the circuit wiring terminated.
4. Service equipment covers shall be installed.
5. The building roof covering shall be installed.
6. Temporary electrical service equipment shall be suitable for wet locations unless the interior is dry and protected from the weather.

2701.1.3 Assisted living facility generator requirements. Generators installed to comply with regulations for assisted living facilities licensed by the Virginia Department of Social Services shall be permitted to be optional standby systems.

[F] SECTION 2702 EMERGENCY AND STANDBY POWER SYSTEMS

[F] 2702.1 Installation. Emergency and standby power systems required by this code or the *International Fire Code* shall be installed in accordance with this code, NFPA 110 and 111.

[F] 2702.1.1 Stationary generators. Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200.

[F] 2702.2 Where required. Emergency and standby power systems shall be provided where required by Sections 2702.2.1 through 2702.2.20.

[F] 2702.2.1 Group A occupancies. Emergency power shall be provided for emergency voice/alarm communication systems in Group A occupancies in accordance with Section 907.5.2.2.4.

[F] 2702.2.2 Smoke control systems. Standby power shall be provided for smoke control systems in accordance with Section 909.11.

[F] 2702.2.3 Exit signs. Emergency power shall be provided for *exit* signs in accordance with Section 1011.5.3.

[F] 2702.2.4 Means of egress illumination. Emergency power shall be provided for *means of egress* illumination in accordance with Section 1006.3.

[F] 2702.2.5 Accessible means of egress elevators. Standby power shall be provided for elevators that are part of an *accessible means of egress* in accordance with Section 1007.4.

[F] 2702.2.6 Accessible means of egress platform lifts. Standby power in accordance with this section or ASME A 18.1 shall be provided for platform lifts that are part of an *accessible means of egress* in accordance with Section 1007.5.

[F] 2702.2.7 Horizontal sliding doors. Standby power shall be provided for horizontal sliding doors in accordance with Section 1008.1.4.3.

[F] 2702.2.8 Semiconductor fabrication facilities. Emergency power shall be provided for semiconductor fabrication facilities in accordance with Section 415.8.10.

[F] 2702.2.9 Membrane structures. Standby power shall be provided for auxiliary inflation systems in accordance with Section 3102.8.2. Emergency power shall be provided for *exit* signs in temporary tents and membrane structures in accordance with the *International Fire Code*.

[F] **2702.2.10 Hazardous materials.** Emergency or standby power shall be provided in occupancies with hazardous materials in accordance with Section 414.5.4.

[F] **2702.2.11 Highly toxic and toxic materials.** Emergency power shall be provided for occupancies with highly *toxic* or *toxic* materials in accordance with the *International Fire Code*.

[F] **2702.2.12 Organic peroxides.** Standby power shall be provided for occupancies with silane gas in accordance with the *International Fire Code*.

[F] **2702.2.13 Pyrophoric materials.** Emergency power shall be provided for occupancies with silane gas in accordance with the *International Fire Code*.

[F] **2702.2.14 Covered mall buildings.** Standby power shall be provided for voice/alarm communication systems in *covered mall buildings* in accordance with Section 402.14.

[F] **2702.2.15 High-rise buildings.** Emergency and standby power shall be provided in high-rise buildings in accordance with Sections 403.4.7 and 403.4.8.

[F] **2702.2.16 Underground buildings.** Emergency and standby power shall be provided in underground buildings in accordance with Sections 405.8 and 405.9.

2702.2.17 Group I-2 and I-3 occupancies. Emergency power shall be provided in accordance with Section 407.11 for Group I-2 occupancies licensed by the Virginia Department of Health as a hospital, nursing or hospice facility. Emergency power shall be provided for doors in Group I-3 occupancies in accordance with Section 408.4.2.

[F] **2702.2.18 Airport traffic control towers.** Standby power shall be provided in airport traffic control towers in accordance with Section 412.3.5.

[F] **2702.2.19 Elevators.** Standby power for elevators shall be provided as set forth in Sections 3003.1, 3007.7 and 3008.15.

[F] **2702.2.20 Smokeproof enclosures.** Standby power shall be provided for smokeproof enclosures as required by Section 909.20.6.2.

[F] **2702.3 Maintenance.** Emergency and standby power systems shall be maintained and tested in accordance with the *International Fire Code*.