



Cayman Building Code Resolution

The following **Code Resolution** is to help the customer clarify a code related issue. It in no way supersedes the adopted codes which must also be referred to. This Resolution supersedes any and all older ones

Title: Generator Calculation (Commercial)

Code Section: NEC 700, 701, 702

Resolution Number:

Revised: 24 May 2018

Reason: The IBC, IMC as well as the NEC dictates which systems have to be on emergency or legally required standby power. Optional standby is up to the designer / customer.

NOTE; the attached sheets are given as reference out of the appropriate codes

Resolution:

700 Emergency Power (10 sec)

701 Legal Required stand by power (60 sec)

702 Optional standby power

The generator shall be permitted to supply emergency, legally required standby, and optional standby system loads where the source has adequate capacity or where automatic selective load pickup and load shedding is provided as needed to ensure adequate power to

- (1) the emergency circuits, (Calculated at 100%)
- (2) the legally required standby circuits, (calculated at 100%)
- (3) the optional standby circuits, in that order of priority. The alternate power source shall be permitted to be used for peak load shaving, provided these conditions are met.

Peak load shaving operation shall be permitted for satisfying the test requirement of 700.3(B), provided all other conditions of 700.3 are met

The electrical designer of the project / generator shall state on plans which loads are emergency, legally required standby and any optional circuits they intend to load on the generator.



Haroon Pandohie, MCRP, MBA, AICP
Director of Planning

IBC required Emergency and Legal Required Standby loads

In an effort to streamline the process the following list of common loads shall be considered. See next page for all references to the IBC and each codes section referenced

Section	Occupancy		Power
2009 IBC			
402.14	Cover Mall	Exceeding 50,000 sq/ft	Standby
403.4.8	High rise 75'	Exit signs, egress, elevator lighting, Emergency voice/alarm, fire detection, fire alarm, fire pumps	Emergency
403.4.7	High rise 75'	Elevators, fire ventilation, fire command center	Standby
404.7	Atrium	Smoke Control	Standby
405.9.1	Underground Building	Exit signs, egress, elevator lighting, fire detection, fire alarm, emergency voice/alarm communication	Emergency
405.8.1	Underground Building	Fire pumps, fire ventilation, smoke control, elevators	Standby
414.5.4	Hazardous	Fumes are present	Either
415.8.10	HPM	Ventilation , Alarm	Emergency
708.14.2.5	Stair Enclosure	Enclosed elevator lobby (pressurization system)	Standby
907.2.1.1	Assembly (a)	1000 or more people-- Voice/ Alarms communication	Emergency
907.2.12	Special Amusement	Voice/ Alarms communication	Emergency
909.11	All Occupancies	Smoke Control	Standby
910.4.4	F & S	Smoke & Heat vents	Ahead of Main
1006.3	All Occupancies	Emergency Illumination for any area/ floor/ building requiring 2 means of egress	Emergency (battery)
1011.1 1011.5.3	All Occupancies	Exit Signs for any area/ floor/ building requiring 2 means of egress	Emergency (battery)
1007.2.1	Elevators	Accessible -- 4 or more stories above the level of exit discharge (5 story building)	Standby
3003.1	Elevators	Where required in Accessible, High-rise,	Standby
3102.8.2	Membrane	Where inflation system is required	Standby
2014 National Electrical Code			
517.30	Hospitals		Both

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 NFPA 70.

[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.

[F] 2702.2.17 Group I-3 occupancies. 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*.