

Emergency and Standby Power Cheatsheet

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Emergency Power	
Definition (IBC 202)	A source of automatic electric power of a required capacity and duration to operate required life safety, fire alarm, detection and ventilation systems in the event of a failure of the primary power. Emergency power systems are required for electrical loads where interruption of the primary power could result in loss of human life or serious injuries.
Load Transfer (IBC 2702.1.3)	...shall automatically provide secondary power within 10 seconds after primary power is lost, unless specified otherwise in this code.
Where Required	
Emergency Alarm Systems (IBC 415.5.4)	Emergency alarms for the detection and notification of an emergency condition in Group H occupancies are required to be on emergency power.
Emergency Voice/Communication Systems (IBC 907.5.2.2.5)	Emergency voice/alarm communications systems are required to be on emergency power. The system shall be capable of powering the required load for atleast 24 hours, as required in NFPA 72.
Exit Signs (IBC 1013.6.3)	Exit signs are required to be on an emergency power system provided by storage batteries, unit equipment, or an on-site generator. The emergency power system is required to illuminate the exit sign for at least 90 minutes. ¹
Group I-2 Electrical Systems (IBC 407.10)	In Group I-2 occupancies, the essential electrical system for electrical components, equipment and systems is required to be on emergency power where required by NFPA 99.
Group I-3 Power-operated doors and locks (IBC 408.4.2)	Power-operated sliding doors or power-operated locks for swinging doors are required to be on emergency power. ²
Occupancies with Hazardous Materials (IFC)	In occupancies with hazardous materials, required mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required to be on emergency OR standby power (IFC 5004.7, 5005.1.5). ³ In occupancies with highly toxic and toxic compressed gases, the following equipment is required to be on emergency power: exhaust ventilation systems, treatment systems, gas detection systems, smoke detection systems, temperature control systems, fire alarm systems, emergency alarm systems (IFC 6004.2.2.8, 6004.3.4.2). ⁴
High Rise Buildings (IBC 403.4.8.4)	In high rise buildings, the following systems are required to be on emergency power: exit signs and means of egress illumination required by Chapter 10, elevator car lighting, emergency voice/alarm communications systems, automatic fire detection systems, fire alarm systems, electrically powered fire pumps.
Means of Egress Illumination (IBC 1008.3)	Illumination for the means of egress of certain spaces is required to be on emergency power (refer to 1008.3. for specific locations). The emergency power system is required to provide power for at least 90 minutes.
Semiconductor Fabrication Facilities (IBC 415.10.11)	Certain electrical systems in Group H-5 occupancies are required to be on emergency power. Refer to IBC 415.10.11 for specific details. See also requirements for Pyrophoric materials in IFC.
Underground Buildings (IBC 405.8.2)	In underground buildings, the following systems are required to be on emergency power: emergency voice/alarm communications systems, fire Alarm Systems, automatic fire detection systems, elevator car lighting, exit signs and means of egress illumination required by Chapter 10.
Standby Power	
Definition (IBC 202)	A source of automatic electric power of a required capacity and duration to operate required building, hazardous materials or ventilation systems in the event of a failure of the primary power. Standby power systems are required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.
Load Transfer (IBC 2702.1.3)	...shall automatically provide secondary power within 60 seconds after primary power is lost, unless specified otherwise in this code.
Where Required	
Elevators and Platform Lifts (IBC 1009.4, 1009.5)	Elevators and platform lifts serving as part of an accessible means of egress are required to be on standby power. Standby power must meet the emergency operations requirements of IBC 3003.1. See additional standby power requirements for fire service access elevators (IBC 3007.8) and occupant evacuation elevators (IBC 3008.8).
Emergency Responder Radio Coverage Systems (IFC 510.4.3)	Emergency responder radio coverage systems are required to be on standby power. The system shall be capable of operating the emergency responder radio coverage system for at least 24 hours.
Occupancies with Hazardous Materials (IFC)	In occupancies with hazardous materials, required mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required to be on emergency OR standby power (IFC 5004.7, 5005.1.5). ^{3,5} The following systems used to protect Class I and unclassified detonable organic peroxide: exhaust ventilation systems, treatment systems, gas detection systems, temperature control systems, fire alarm systems, emergency alarm systems (IFC 6204.1.11).
High Rise Buildings (IBC 403.4.8.4)	In high rise buildings, the following systems are required to be on standby power: power and lighting for the fire command center, ventilation and automatic fire detection equipment for smokeproof enclosures, and elevators. Where elevators are provided for accessible means of egress, fire service access or occupant evacuation, the standby power system is also required to comply with IBC 1009.4, 3007 or 3008, respectively.
Horizontal Sliding Doors (IBC 1010.1.4.3)	Special purpose horizontal sliding, accordion or folding door assemblies used as part of the means of egress are required to have an intergrated standby power supply. The standby power supply is required have a capacity to operate not fewer at least 50 closing cycles of the door.
Membrane Structures (IBC 3102.8.2)	When an auxiliary inflation system for a membrane structure is required, the system is required to be on standby power. The standby power system is required to have the capability to operate independtly for at least 4 hours. See also IFC 3103.10.4 for standby power requirements for temporary membrane structures.
Smoke Control Systems (IBC 404.7, 909.11, 909.20.6.2, 909.21.5)	Smoke control systems are required to be on standby power.
Underground Buildings (IBC 405.8.1)	In underground buildings, the following systems are required to be on standby power: smoke control systems, ventilation and automatic fire detection for smokerppof enclosures, fire pumps, and elevators.

Notes

1: Exit sign illumination means that can provide continuous illumination for 90 minutes without external power are not required to be connected to an emergency power system. Emergency power for Group I-2 Condition 2 exit signs cannot be provided by unit battery equipment only.

2: Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1. Emergency power is not required where remote mechanical operating releases are provided.

3: Standby/emergency power is not required for mechanical ventilation systems serving the following: storage of Class II and Class IIC flammable and combustible liquids in closed containers not exceeding 6.5 gallons capacity, storage of Class I, III, IV and V organic peroxides, storage of asphyxiant, irritant and

4: Emergency power for mechanical ventilation, treatment systems and temperature control systems is not required where an approved fail-safe engineered system is installed.

5: Standby power for mechanical ventilation, treatment systems and temperature control systems is not required where an approved fail-safe engineered system is installed.