

EMERGENCY PROCEDURES

Electrical Power Loss

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Loss of Electrical Power is one of several building emergencies the property management team should plan for as a key element in the organization's life safety program. Like other building emergencies, the emergency response team's effective response is significantly enhanced through preparation, including an understanding of how the building's electrical distribution systems, and related building systems, operate during a loss of power condition.

Building security response actions, outlined on the following page, are based on 24 x 7 security staff at a large building. For buildings not having a security presence during an electrical power failure, the property and engineering team will be made aware of the power failure by one of three ways:

1. If property management or building engineers are on site, the power loss will be obvious.
2. Security monitoring company notification to designated building staff based on call out instructions - the building fire alarm panel will communicate a loss of power alarm to a central security monitoring station.
3. A tenant will contact the property management office per their emergency response training.

For buildings not having an on-site security presence, the building engineer at the building, or first arriving at the building, will perform the Building Security Response Actions including Elevator Operations, Elevator Recall, and Tenant Communications.

“The building emergency response team’s effective response to a loss of building power is significantly enhanced through preparation, including an understanding of how the building’s electrical distribution systems, and related building systems, operate during a loss of power”

EMERGENCY PROCEDURES

Electrical Power Loss

BUILDING SECURITY

Representative Emergency Response Actions Below

1. Contact the property's Chief Engineer | Senior Engineer and Property Manager. For a loss of power after normal business hours, refer to the property's Emergency Call List. If property management and engineering staff is in the building, the loss of power will be immediately apparent.
2. Verify operation of each elevator by observing the elevator position indicator panel located in the first floor main lobby. If any elevators containing passengers can't be recalled, place an emergency entrapment call to the Elevator Service Contractor (refer to property's Emergency Call List). For an elevator entrapment, follow the building's emergency procedure for **ELEVATOR ENTRAPMENT**.
3. [**Manually recall each elevator, one at a time, to the main lobby and take the elevator out of service**] (Input specific actions required in order to take elevators out of use during an electrical power loss scenario). **During a building power failure, the primary concern of the Emergency Response Team should be potential entrapment of elevator passengers.** Upon re-establishment of electrical power, it is common for elevators to shut down due to issues regarding synchronization of the elevator's Automatic Transfer Switching (ATS) device. For elevator recall instructions, refer to the building's Fire Fighter's Handbook & Security Post Orders.
4. Post signage in the main lobby, informing occupants and visitors that the building has experienced a loss of electrical power. Assist in crowd control and occupant questions.

EMERGENCY PROCEDURES

Electrical Power Loss

CHIEF ENGINEER | SENIOR ENGINEER

Representative Emergency Response Actions Below

1. Report to, or direct a qualified engineer to, the Emergency Generator room to confirm start up and operation of the emergency generator. Start manually if required. Periodically monitor the operation of the generator.
2. Determine if the loss of power is building specific or due to a local or regional electrical power outage. This can generally be determined through either visual observation of an adjacent building or by contacting the utility provider by phone or by web-site access.
3. If the loss of power is property specific, verify the status of the building's primary electrical circuit breakers and emergency shunt trip device (main circuit breaker trip device).
4. If the power failure is building specific, but the problem is not a result of a main electrical breaker or emergency shunt device problem, contact the property's utility provider (refer to the property's Emergency Call List). The electrical problem could be associated with the specific electrical transformer serving the property. If the transformer is maintained by the electricity utility provider, they would make repairs to the malfunction and restore power to the building.
5. If it is confirmed the power loss is a local or regional power outage, report the outage to the electrical utility provider so that they are aware of the extent of the power outage. Maintain communication regarding the power outage, via utility company's periodic updates, generally available in the power outage section of the utility company's web-site.
6. Contact the Property's Electrical Contractor (refer to the property's Emergency Call List).

The safest and most effective procedure requiring re-setting of main electrical breakers is with the technical expertise provided by a licensed electrician familiar with the building and having the appropriate electrical safety personal protective equipment.

EMERGENCY PROCEDURES

Electrical Power Loss

PROPERTY MANAGER

Representative Emergency Response Actions Below

1. With assistance from available management staff, Inform building occupants of the situation: Initially via PA system and subsequently, via key-designated managers, by group text, e-mail, or telephone (if available). Property staff may need to utilize mobile cell phones and key tenant contacts mobile cell phones if building office telephone systems or computer systems are not operable. The information obtained during the initial Response Actions above - 'Chief Engineer's assessment' - should help in projecting an Estimated Time of Repair (ETR) to the building tenants.
2. Provide periodic occupant updates - 'status reports' - via the most expeditious and available means: sign postings, posting on the building's web-page or work order system (if able to do so with power restrictions), group text messages, e-mails and telephone calls.
3. Consider closing the building dependent upon time of day and the electrical-based systems that are non-operational - elevators, plumbing, limited lighting etc.
4. Inform property owner, regional management senior directors-managers and the property insurance company. Provide periodic updates. Refer to the property's Emergency Call List.

EMERGENCY PROCEDURES

Electrical Power Loss

PREPARATION & GENERAL CONSIDERATIONS

1. Response actions should primarily focus on the safety of the property occupants followed by the controlled and safe restoration of power. Of critical importance is to **ensure safe operation or recall of the property's elevators** so that passengers are not entrapped.
2. The supervision and performance of electrical switching and troubleshooting of higher voltage (480 volt) electrical systems should only be conducted by professionals that are trained in this type of operation. Electrical main distribution system one-line drawings should be posted in the main electrical room for quick reference by emergency response personnel. Basic one-line electrical drawings (or schematics) with clear reference to the location of main electrical breakers and switches should also be available in the Fire Fighter's Handbook in the Fire Command Center.
3. The property should have written - step-by-step - electrical switching procedures for various loss of electrical power scenarios in order to ensure the safe restoration of normal electrical power.
4. The specific reason for loss of electrical power, and the status of electrical switching equipment, breakers, etc., shall be determined prior to restoration of power. **Attempting to re-set a failed circuit breaker, in order to hastily restore power, could cause severe personnel injury or death.**
5. Prior to the manual opening (tripping) or closing (switching to the on position) the building's main electrical circuit breaker - main disconnect switch, the electrical breakers powered from this main circuit breaker should be opened (tripped) so that the main circuit breaker is not manually opened or closed with an electrical load. The supervision and performance of switching and troubleshooting of higher voltage (HV - 480 volt) electrical systems should only be conducted by professionals that are trained in this type of operation.
6. Complete electrical system restoration, following return of normal electrical power, may take considerable time. Numerous electrical devices may need to be reset, such as circuit breakers or electrical controllers, providing power to water-cooled supplementary HVAC, cafeteria fridge compressor units and other HVAC and plumbing systems. Many of these systems will not automatically reset upon restoration of normal building power. When reaching the restoration phase of a power failure, the building engineers should refer to the building's written electrical switching procedure.

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Electrical Power Loss

PREPARATION & GENERAL CONSIDERATIONS

The following table provides a summary of services that are available (or not available) upon a total loss of normal electrical power at building [Property Name].

BUILDING ELECTRICITY LOSS OF POWER	
SERVICES AVAILABLE (Generator Back Up)	SERVICES NOT AVAILABLE
List Services Here	List Services Here

An effective property preventive maintenance program, to include periodic infra-red and ultra-sonic testing and complete shut-down/maintenance of the property's electrical distribution system, will minimize the risk of a building internal power failure.

In order to ensure an effective recovery, with minimal disruption, following a building power failure, an effective preventive maintenance and operations program will include:

- > Maintenance and testing of the building emergency generator (s)
- > Periodic testing of emergency lighting and fire protection systems
- > Maintenance and testing of Automatic Transfer Switches (ATS)
- > Filling the building emergency generator fuel tank when it reaches (no lower than) 50% capacity and 80% during hurricane and thunderstorm season
- > Rehearsing of electrical switching procedures