

# From Basement to Boardroom

Our buildings are becoming increasingly dependent on technology and systems to support not only the people within a building and the business activities that occur there, but the buildings themselves.

In the event of a mains power failure, buildings rely on backup power that helps ensure the health and safety of the public, continuity of operation, as well as the protection of important business assets that cannot be lost or damaged during a power outage.

## Life Safety Systems

All life safety systems, such as egress and emergency evacuation lighting, exit signs, and fire alarms, must be connected to emergency power systems with defined uptime.

In other words, everything that is related to protecting the lives of the building occupants must be connected to an emergency power system.

This emergency power solution can include an Uninterrupted Power Supply (UPS) or individual battery backup.



### Emergency Lighting

The New Zealand Building Code (NZBC) F6 covers visibility in escape routes. The Code requires that exit lighting is visible and some buildings can satisfy this with photoluminescent signs and strips along the egress path. The majority of buildings require an electrical solution to meet the visibility requirement.

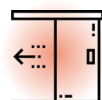
Emergency lighting should activate immediately when general lighting is lost in an area. Many installations use single point unit emergency lights and exit signs. UPS/centralised battery solutions work well in situations where access to install and to maintain is an issue, or it is architecturally undesirable to have single points around the building.

Exit sign requirements are prescribed in NZBC F8. Exit signs are required at each door on an egress path, at each change in direction along an egress

path and to clearly indicate the direction of egress at each point on the open path.

We explore the ways in which buildings and occupants can benefit from clean reliable power from basement to boardroom.

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### Emergency Egress and Access Control

Access control is one of those essential functions that must be functional at all times. All access-controlled doors are required to have a break-glass exit, or emergency exit request button to release the door in a civil emergency.

Additionally, most locking mechanisms (except in very specific circumstances such as prisons) are fail-safe, so that they unlock in the event of a power failure. Most commonly, back-up is required for motorised auto doors that need to be driven open in an emergency scenario.

Back-up of access control facilities outside of this is more of an operational consideration, 20 minutes of autonomous operation in a power failure event is a typical requirement.



### Elevators

Elevators play a vital role in modern buildings. Lighting within an elevator is an important consideration during a power outage or emergency situation.

Under NZBC D2, the requirement is to provide 10 lux for 2 hours upon

failure of the normal lighting supply. This is typically achieved with a UPS solution installed on top of the elevator car.

UPS support for communications can also be provided, further ensuring building occupant safety.



## Fire Alarms

We rely on a fire protection system to constantly monitor for hazardous conditions (such as fire, smoke, carbon monoxide, and even combustible and toxic vapours) within a building, notify the occupants so they can exit the building safely, notify first responders, and even activate systems to mitigate the hazard such as fire suppression or ventilation.

A fire alarm system needs to be able to operate continuously throughout the life of a building, this includes times in which mains power to the building is lost or interrupted.

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## Critical Business Infrastructure

Traditionally continuity of power has been a critical consideration in server rooms and communications cabinets though sensitive technology is becoming increasingly less centralised. UPS systems are a key component in supporting this critical business infrastructure.

Business activities underpinned by technology are now more widespread with many critical business operations and equipment that should be considered for Uninterrupted Power Supply (UPS) throughout the building to prevent downtime and lost productivity.



## Security and Network Video Recorder systems

There is no reason that your security camera system should cease operation whenever the power in your home or business fails or is interrupted.

Having a battery backup for your surveillance system can help it running during short-term power outages ensuring continuity of safety and security and protection of stored data.

It is recommended that you connect your security cameras as well as your security NVR to battery backup so that it will remain running during short-term power outages. Make sure to also connect your wireless access point to the UPS if you use wireless cameras.



## Communications equipment

Connectivity for data and voice relies on connection to the internet and the cloud. Protecting your communications equipment including firewalls, ONT and routers against power failure will ensure continuity of communication.



## IT equipment

Many instances of IT equipment failure, downtime or software and data corruption, are the result of problematic supply of power. Typically, people choose to rely on a UPS to safeguard their equipment and data with backup power provided in the event of complete power failure.



## Cooling

Modern servers produce heat as a by-product of operation. It is not enough to provide back-up power to server and communication equipment; consideration should be given to ensuring cooling equipment continues to operate in the event of a power outage to prevent the risk of IT equipment overheating.



## Audio visual equipment

Audio visual equipment is valuable and like any other sensitive electronic equipment is susceptible to damage by power fluctuations and outages.

In the modern age of virtual meetings protecting uptime during meetings is increasingly important and contributes to productivity.



## Point Of Sale

Providing a backup for point-of-sale equipment can ensure that no business is lost during a short power outage enabling you to continue to process sales, keeping customers happy and satisfied.



## Lockers

Modern, hot-desk offices often provide staff with lockers to store their personal possessions whilst at work.

Providing back up power to the locker controls ensures staff are able to access their possessions in the event of a mains power outage.



## Pumps and valves

Many buildings have gas valves and water pumps. Retaining control of these is critical in the event of a power outage or interruption. Loss of control could lead to risk to building occupants and damage to assets within the building as well as the building itself.

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## Talk to the specialists

If you believe that a power failure or interruption could introduce risk to your building, its occupants or its contents - its best to speak with an expert who will be able to identify where back-up power solutions could decrease risk and provide you with safety, security and peace of mind.