ENERGY MARKET AUTHORITY

Our Clean Energy Future

Guide on Managing Power Outages

For Organisations

Contents

Introduction

In Singapore, electricity generated is delivered to consumers through the national power grid. While Singapore has one of the most reliable power grids in the world, power outages can still occur.

Being prepared with contingency plans and backup measures will help organisations mitigate power outage risks and reduce the impact on their operations and services.

This guide provides general information and tips to help organisations prepare for and manage power outages if and when they occur.

Preparing for Power Outages

A power outage occurs when electricity supply to consumers is interrupted. This can be due to various reasons, such as power plant or network issues.

Identify Risks

Maintaining business continuity is important for organisations. It is recommended that organisations conduct a thorough assessment of their individual needs and risks when developing their business continuity plans for power outages.

The following section provides a power outage readiness checklist, which organisations can use as a general guide. This checklist should be adapted to suit their specific operations, industry requirements, and unique circumstances.

Power Outage Readiness Checklist

Responses with 'No' refer to areas that your business continuity plan should address.

Impact on your organisation if there is no power supply	Response
Safety and Access	
1. Are you still able enter and exit your facility?	☐ Yes ☐ No
2. Are the safety alarm systems in place and operational?	☐ Yes ☐ No
3. Are the emergency lighting systems in place and operational?	☐ Yes ☐ No
4. Are there procedures in place to secure your facility if electronic security systems fail?	☐ Yes ☐ No
Business Continuity	
5. Can you continue working in the office without air-conditioning, elevators, lighting, printers, etc?	☐ Yes ☐ No
6. Can you continue to deliver your product or service?	☐ Yes ☐ No
7. Have you identified a list of critical functions?	☐ Yes ☐ No
8. Can your organisation operate without production systems such as assembly line machines and key equipment?	☐ Yes ☐ No

Impact on your organisation if there is no power supply	Response
Power and Equipment	
9. Do you have a backup power source (e.g. generator) for your organisation's critical operations?	☐ Yes ☐ No
10. Is there a clear protocol for managing equipment during a power outage and safely restarting them when power supply is restored?	☐ Yes ☐ No
Communications	
11. Do you have a communications plan to notify employees, clients, and stakeholders?	☐ Yes ☐ No
12. Is there a plan for internal communications?	☐ Yes ☐ No
13. Do you have the contact information of utility companies and key service providers readily available?	☐ Yes ☐ No
Emergency Supplies and Resources	
14. Is there an adequate supply of torchlights, batteries, and other emergency supplies?	☐ Yes ☐ No
15. Are there routine checks to ensure the functionality of the emergency supplies?	☐ Yes ☐ No

Impact on your organisation if there is no power supply	Response
Training and Preparedness	
16. Are the staff trained on emergency procedures to deal with power outages?	☐ Yes ☐ No
17. Have you conducted drills or simulations to test your organisation's power outage responses?	☐ Yes ☐ No
Recovery	
18. Do you have procedures for restoration of operations after power supply is restored?	☐ Yes ☐ No
19. Is there a plan for assessing damages or losses due to power outages and activating insurance coverage if needed?	☐ Yes ☐ No
20. Is there a process for reviewing and improving the power outage response plan after an incident?	☐ Yes ☐ No

Plan for Contingencies

After you have determined the possible impact of a power outage on your organisation, here is how you can develop a contingency plan.

Employees

- Develop written procedures for employees to follow when a power outage occurs. The procedures should outline the potential scenarios, roles and responsibilities of assigned employees, and the steps to take.

- Conduct drills (e.g. table-top exercises, personnel recall, ground deployment exercises) to equip employees with essential information like standard operating procedures, evacuation routes, and activation of backup power supply if required.

Sample of how the scenarios, actions and employee responsibilities could be mapped

Scenario	Action	Responsibility
When power outage affects critical systems	Activate backup power sources, switch to alternative communication channels	IT department, Operations Manager
When power outage disrupts customer service	Redirect customer calls to alternate contact numbers, provide updates on alternative service options	Customer service team, Communications Manager
When power outage impacts production	Suspend operations, implement production schedule adjustments, run up production at other facilities (if available)	Production team, Operations Manager

It is important to ensure the safety of everyone during a power outage.

Systems

- Determine the systems that require continuous power and are essential to your business operations. These could include fire systems, communications systems, computer servers and security systems.

- Develop mitigation solutions and assign relevant employees to look into implementing and testing these solutions. Refer to examples below.

Examples of system risks and suggested mitigating solutions

System Risks	Mitigating Solutions
Access	Plan out emergency evacuation routes to aid personnel in entering and exiting the facility during a power outage.
Equipment Elevators/Lifts	Develop a plan for using an alternative elevator with backup power for product or material transportation only.
PA Systems	Develop an alternative plan for making announcements during a power outage.
Lighting	Ensure emergency lighting works.

Spaces

- Implement security measures such as alarms and surveillance systems to protect your business operations and property during a power outage.

- Ensure your organisation has emergency kits in place, with essential items such as portable power sources (e.g. batteries), torchlights, first-aid kit, and emergency contact list. The emergency kits should be kept in places where they are easily accessible during a power outage.

- Develop mitigation solutions to tackle space-related risks and assign relevant employees to look into implementing these solutions. Refer to examples below.

Examples of space-related risks and suggested mitigating solutions

Space Risks	Mitigating Solutions
Offices	Install surge protectors to important equipment.
Hallways/Stairwells	Install emergency lighting, directional signage, and exit signs. Ensure proper maintenance is performed on all existing signage.
Pantry Areas/Kitchens	Develop a plan for turning off and disconnecting appliances during a power outage.
Escalators/Elevators	Ensure employees understand emergency evacuation plans, and establish alternative methods to move people and inventory.

Act on Mitigating Solutions

After the contingency plan is in place, you may consider implementing the mitigation activities and create checklists to document the activities performed. Below are things to take note when implementing some of the key activities.

Backup Power Sources

- Backup sources such as mobile power generators and batteries could come in handy to provide power supply for critical business operations, if required. When planning for backup power sources, it will be useful to consult your appointed Licensed Electrical Worker(s).

- Always check with your landlord (if you are a tenant) prior to performing any retrofitting of your facility's electrical system.

- Consider installing Uninterrupted Power Supplies (UPS) for computers and sensitive electronic equipment to protect against data loss and equipment damage.

Types of common backup power sources

Scenario	Action
Mobile Power Generators	Mobile power generators provide a reliable source of power supply during an outage. Choose a generator that meets your organisation's power needs and consider fuel storage and maintenance needs.
Batteries	Batteries provide short-term backup power. Select batteries with adequate power capacity.

Communications

- It will be useful to compile a list of emergency contacts, including key employees, appointed Licensed Electrical Worker(s), building management personnel, etc.

- Use common channels available (e.g. WhatsApp, SMS) for communications.

- If a major power outage occurs, always check for updates from social media channels of SP Group and Energy Market Authority (EMA).

Managing
Power Outages

During a power outage, staying calm is crucial for the safety and well-being of everyone in the organisation.

Assess the Situation

- Check if the power outage is isolated or widespread.

- Prioritise the safety of employees and customers in the facility. Avoid using elevators or any electrical equipment until you are certain that it is safe to do so.

- Call 995 or 999 for life-threatening or medical emergencies only. For cases that do not require emergency response, you can call 1777.

Look out for these indicators to assess if a power outage is widespread or otherwise.

01

Check

Check if lights and equipment are switched off.

02

Look

Look outside the facility to see if nearby buildings or streetlights (if at night) are also without power.

03

Test

Test if your Wifi-router or cellular network is working. If it is down, this could indicate a widespread issue.

Be Safe

If the power outage affects surrounding areas:

Follow the procedures documented in your power outage contingency plan.

Activate backup power sources and UPS immediately to maintain critical business operations. Monitor these systems to ensure they are functioning properly.

To avoid damage from power surges when power supply is restored, switch off and unplug non-essential equipment and electrical appliances (e.g. air-con, fan, photocopier, printer, coffee machine, etc).
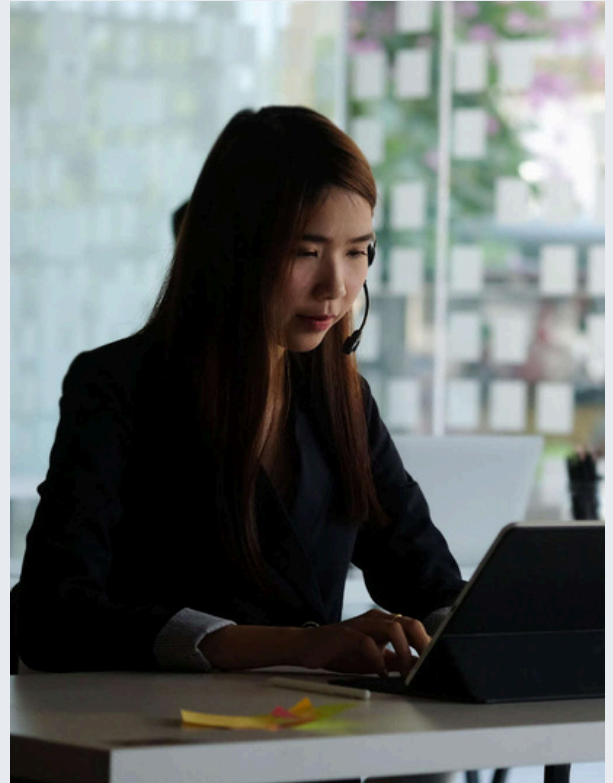
If the power outage affects only your facility:

Identify the cause of the outage. These could include overloaded power sockets or faulty electrical equipment.

Consult your appointed Licensed Electrical Worker(s) to check on the electrical/supply installation to investigate if there is an issue.

Communicate & Coordinate

- Update all employees and personnel onsite on the situation, and prioritise providing guidance on safety and contingency measures. Inform them through the established communications channels as outlined in your contingency plan.

- Notify important stakeholders such as suppliers, customers, or partners especially if the power outage affects your business operations. Communicate with them through channels such as your organisation's account managers or text messages.

- Provide clear, accurate, and timely updates to stakeholders. These updates should address their concerns as well as to correct any misinformation.

- Stay updated by tuning in to local radio stations. If there is Internet connection, check for updates on the social media channels of SP Group and Energy Market Authority (EMA). You could also call the Electricity Service Centre's 24-hour hotline at 1800 778 8888.

Take Note

After power supply is restored, you may need to manually reset your internal electrical network. If need be, consult your appointed Licensed Electrical Worker(s) for assistance.

Conducting drills can help organisations stay vigilant and ready for power outages by testing your backup power sources, improving your contingency plans and enhancing coordination among various departments to manage power outages more effectively.

Test and Exercise Your Plans

Here are 4 key steps to ensure your plans are effective during a power outage.

Step 1

Simulate a real power outage situation

Inform employees that a simulation of a power outage that affected the supply to your facility and that the contingency plan has been activated.

Observe if employees are carrying out their roles correctly and efficiently. The more realistic the scenario, the better prepared they will be in managing real situations.

Step 2

Test backup power sources

During the drill, you may test if backup power sources are working as intended. This is crucial for maintaining critical business operations during an actual power outage.

Step 3

Exercise review

After each exercise, hold a debrief to discuss the exercise with employees. Review what went smoothly and highlight areas where improvement is needed (e.g. unclear procedures, communication breakdowns).

Step 4

Update contingency plan

Based on feedback from the exercise, update the power contingency plan. Changes in equipment, infrastructure and personnel should also be promptly updated in the contingency plan.

Sample Questions to Ask During Exercise Review

Communications
- Did everyone in the organisation receive the power outage notification promptly?
- Was there any confusion in communicating the roles and responsibilities of assigned employees?

Response Time
- How quickly did employees respond to the simulated power outage?
- Were there any delays in activating backup power sources?

Backup Power Sources
- Were there any issues with accessing or using backup power sources?
- Did all the backup power sources function properly?
- Were there any essential systems which did not work as intended?

Safety Protocols
- Did employees follow the safety protocols outlined in the contingency plan?
- Were there any safety hazards identified during the simulated power outage?

Improvements
- What challenges or issues did employees face?
- How can the organisation improve its preparedness for a power outage?

Useful Resources and Contacts

Organisation	Resources & Contacts
SP Group	Electricity Service Centre hotline: 1800 778 8888 Facebook: facebook.com/SPGroupSG Website: www.spgroup.com.sg
Energy Market Authority (EMA)	Facebook: facebook.com/EnergyMarketAuthority X: twitter.com/EMA_sg Website: www.ema.gov.sg
Singapore Civil Defence Force (SCDF)	Emergency hotline: 995 Non-emergency hotline: 1777 Website: www.scdf.gov.sg

WHAT TO DO DURING A
Power Outage
FOR BUSINESSES/ORGANISATIONS

ENERGY MARKET AUTHORITY
Our Clean Energy Future

Assess the Situation

- Check if power outage is isolated to your premises or widespread.
- Prioritise the safety of everyone on the premises.

Be Safe

- Follow power outage contingency plan.
- Switch off and unplug all non-essential equipment and electrical appliances.
- Activate backup power sources for critical operations if required.

Communicate & Coordinate

- Inform everyone onsite on the situation and the safety measures to take.
- Notify stakeholders, especially if business operations are affected.

Stay Updated

Check for updates on the social media channels of SP Group and the Energy Market Authority.

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Download this infographic at:
www.go.gov.sg/ema-infographic-power-outage-readiness-organisations

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