# LOSS OF POWER EMERGENCY RESPONSE PLAN ALGORITHM

## Area Supervisor / Designate Aware of Loss of Power Services

**Instruct Staff to:**
- Verify status of patients and that critical patient care equipment is functioning
- Escort patients and visitors to a safe area
- Verify power is affected throughout the Area / Unit
- Confirm whether other plugged-in equipment is still working. Staff may have to try several power outlets

**Reporting power loss:**
- Report outage to on-site Facilities Maintenance & Engineering via Switchboard (66#)
- Try a powersafe / contingency phone in your area, if available (refer to Loss of Telephone Plan)

## Facilities Maintenance & Engineering

**Upon notification of a power service interruption (normal or emergency service):**
- Follow Checklist 1
- Ensure that emergency generators are operating properly
- If Protective Services is not on-site, ensure Protective Services Checklist 2 is completed
- Report outage to electric power supplier to determine if it is a supply or site issue
- Check to ensure secondary feeder has transferred
- Check for obvious physical damages to power distribution switching equipment if not a power supplier issue
- Check grounds and surrounding area for any construction or operations that may disrupt power services if not a power supplier issue
- Report findings to Site Administration / Administrator On-Call, afterhours

## Switchboard / Designate

**Upon notification:**
- Verify functioning of phone system and overhead paging
- Notify FM&E On-Call, afterhours via switchboard
- Notify Site Administration / Administrator On-Call of nature and impact of loss
- Notify Protective Services, (if PS not on-site call Covenant Health Protective Services Manager)
- When requested, and if overhead paging available, announce (sample script): “**Attention please, the site is experiencing a brief power outage. Please check your Area / Unit and report any service issues to FM&E or the incident command (if set up).**”
- If overhead paging not available, consult Site Administration / Administrator On-Call for alternate strategy
- Refer staff inquiring about the power loss to their Emergency Response Manuals

When requested by Site Administration / Administrator On-Call, announce “**Attention please – the power has been restored. The power has been restored.**”
**LOSS OF POWER EMERGENCY RESPONSE PLAN ALGORITHM**

Upon receiving notification of a Loss of Power:

- Show a calm and reassuring manner
- Ensure critical patient care equipment (cardiac monitors, ventilators, oxygen compressors, portable suction, etc.) is functioning (plugged into emergency power (Red) outlets)
- Ensure non critical / not needed equipment is NOT plugged into emergency power (Red) outlets
- Reassure patients / visitors of the situation* (see suggested script, below)
- Ensure patients / visitors are escorted to a safe area, as required
- Assess the vulnerability of items stored in refrigerated / cold rooms. **DO NOT OPEN FRIDGES / FREEZER unless there is an urgent need to do so or there is a need to relocate the supplies.**

Critical items should be maintained in fridges / freezers supported by emergency power. Items of particular importance include, but not limited to:

- Vaccines
- Blood fridges
- Tissue banks
- Food

- Access resources as necessary (flashlights, manually operated clinical equipment, etc)
- Report actions / assessment to Supervisor / Designate
- Turn off lights / computer equipment to prevent power surge
- Prepare for potential evacuation of the Area as instructed by Site Administration / Administrator On-Call

- If you are away from your work space when hearing the Loss of Power announcement, you are asked to return to your own work space, if it is safe to do so and report to your Supervisor / Designate.

*Script for Patients/Visitors: “We are currently experiencing a brief power outage. We have the situation under control and are continuing to provide services as usual. Your safety is our top priority and we will advise you immediately if we need to do anything further.”

After receipt of “All Clear” notification:

- If, after an appropriate amount of time, the power service is still not restored, notify FM&E via switchboard
- Verify status of patients and that critical patient care equipment is functioning
- Confirm that other plugged-in equipment is functioning.
- Process backlog of messages compiled while telephone and IT systems were down *(Prioritize calls. Depending upon the length of time the systems were down and level of service restored, the systems may be busy with outgoing calls).*
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<td>ERP 4</td>
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Reviewed and Approved by Covenant Health Emergency/Disaster Management
Developed by AHS and Adapted for Covenant Health Sites
PURPOSE

In several Covenant Health facilities contingencies are in place for the maintenance of full or partial electrical power, should there be a loss of utility from the community supplier. As there are varying degrees of capabilities across Covenant Health, each site is to adapt the Loss of Power Emergency Response Plan template to reflect the resources which are available to support their site. Capabilities may include independent emergency power generating, networking of uninterrupted power supply (UPS) for critical electrical equipment and computer networks, or be limited to temporary lighting to guide staff and clients during evacuation.

Where available, the UPS and emergency power systems provide support to core building systems such as heating/cooling, air handling, elevators, and limited lighting systems. At these facilities, critical electrical equipment (cardiac monitors, compressors, portable suctions, etc.) are also supported if plugged into emergency power outlets (designated outlets).

APPLICABILITY

Compliance with this Emergency Response Plan is required by all Covenant Health employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Covenant Health (including contracted service providers as necessary). This Emergency Response Plan does not limit any legal rights to which you may otherwise be entitled.

ACTIVATION

The Loss of Power Response Plan can be initiated by Area Supervisor / Designate by following the preceding algorithm. The order in which notification occurs will depend on the particular circumstances of the situation. Loss of Power-specific responses are:

- Facilities Maintenance and Engineering (Checklist 1)
- Protective Services / Designate (Checklist 2)
- Site Administration / Administrator On-Call (Checklist 3)
- Elevator Entrapment Algorithm (Appendix I)
- Loss of Power Fire Watch Program (Appendix II)
**POST INCIDENT ACTIONS**

For a facility impacted by a loss of power, the Site Administration or Administrator On-Call is to complete incident documentation as follows:

- Reportable Incident Form (senior’s sites).
- Urgent Notification of an Emerging Issue (all other sites).
- Other site or zone-specific documentation as appropriate.

Advice on document completion may be sought from Emergency/Disaster Management staff on-call 780-735-9000 (Ask operator to speak with E/DM on-call) or from the Administrator on-call (during evenings and weekends). Emergency/Disaster Management staff may also be contacted for assistance in facilitating the post incident debriefing.
FACILITIES MAINTENANCE & ENGINEERING POWER OUTAGE CHECKLIST

If Protective Services is not on-site, ensure Checklist 2 is also completed

- Confirm UPS or Emergency Power is functioning properly and notify Site Administration / Administrator On-Call immediately on the status of the systems.
- Verify the status of back up emergency generators and their fuel source amounts.
- Contact electricity provider to determine if the issue is with them or if it is a site issue
- Contact FM&E On-Call Manager and apprise them of the situation
- Check and monitor the operation of:
  - Elevators
    - Protective Services / Designate will advise if there is passenger entrapment in any elevator (refer to Appendix I)
    - Notify elevator contractor of any entrapments
  - Critical Ventilation Systems
  - Hot Water Heating Boilers
  - High and Low Pressure Steam Boilers
  - Domestic Hot Water Boilers
  - Access Control systems
  - Fire Alarm systems
  - Freezers and Fridges for potential draw and surge to compressors, when power is returned
  - UPS systems
  - Medical Air / Medical Gases
  - Medical Vacuum
  - Instrument Air Compressors and distribution
  - Water Boost Pumps

All of this equipment and systems are on Emergency Power and are monitored through the Building Management System.

- Power Plant / Central Control / Operations Centers
  - impact on steam turbines, central boilers
  - ensure chillers switch to 100% outside air intake. Extreme temperatures would create environmental safety issues for patients and staff, Code Green (Evacuation) may need to be considered.

- Ensure OR air exchanges have been maintained at the recommended standards. Notify OR of air flow issues so they can manage their operations. If not, check if a patient was having OR procedures during the time of the outage.
☐ Advise all patient care areas to move critical equipment to Red emergency plugs and unplug all non-critical equipment from emergency plugs.

☐ Ensure Switchboard is functioning as required.

☐ Contact local IT Service Desk if any computer rooms are being affected.

☐ Notify Site Administration / Administrator On-Call if any water or flooding issues occur.

☐ Check toilets after a prolonged outage as some of the sensors have been known to trigger constant flushing and water problems / flooding floors.

☐ Be alert that issues around a build-up of steam may trigger a fire alarm.

☐ Notify Site Administration / Administrator On-Call if any issues with doors or pipes freezing in severe cold weather situations.

☐ Building impact (including all buildings within Site):
Checklist 2

PROTECTIVE SERVICES / DESIGNATE POWER OUTAGE CHECKLIST

☐ Loss of power may cause loss of access control to Units. Protective Services / Designate to confirm with Emergency Department, Mental Health and Labour & Delivery that all electronic locking systems are working and that the staff and patients are safe.

☐ Contact local IT Service Desk if any access control systems are being affected.

☐ Confirm all elevators are functioning or returned to ground level, and no one is entrapped. (refer to elevator entrapment algorithm Appendix I).

☐ Loss of power may cause loss of the Fire Suppression and Monitoring Systems also due to loss of water circulation pumps, unless the Fire Suppression Systems are on emergency power. Protective Services / Designate to be engaged to establish Fire Watch rounds (Appendix II).

☐ Check in with Covenant Health Protective Services Manager. to ensure they are aware of the ongoing needs of the site for Protective Services support.

☐ Assess the need for additional staff for:
  ☐ Manning a Fire Watch (see below reference to Appendix II)
  ☐ Posting Internal and External Signage
  ☐ Preparing for restrictions to site access
  ☐ Refer all media inquiries to Corporate Communications
  ☐ Contact “off duty” personnel, as required

☐ Notify Parking Services to ensure the parking arms are raised

☐ Notify FM&E and Site Administration / Administrator On-Call if any further incidents or issues which arise from the outage (water or flooding)

☐ Be aware of the potential for releases of steam and resulting fire alarms, from loss of power within heating systems. Protective Services / Designate to respond and advise Site Administration / Administrator On-Call on alarm status
SITE ADMINISTRATION / ADMINISTRATOR ON-CALL POWER OUTAGE CHECKLIST

- Document Notification of the incident, to include:

  Site: __________________________
  Power Outage: Date___________ Time_________ Duration_________
  Confirm backup generator started: □ Yes □ No
  Notification received from:
  □ Facilities Maintenance & Engineering
    If FM&E is not on-site, ensure FM&E is dispatched to the Site, to complete Checklist 1.
    □ Protective Services / Designate
      If Protective Services is not on-site, ensure FM&E or other Site Designate completes Checklist 2.
      □ Area / Unit / Staff __________________________
      □ Other __________________________

- Establish communications with the following areas to ensure a complete picture of the event is gathered, and assigned duties are being undertaken:

  □ FM&E
    ▪ Site Director, Manager / Lead Hand Name: __________________________
    ▪ FM&E Manager On-Call (afterhours) Name: __________________________
  □ Protective Services / Designate
    ▪ On-Site Lead Name: __________________________
    ▪ Manager On-Call (afterhours) Name: __________________________
  □ E/DM On-Call 780-735-9000 Name: __________________________

General Considerations / Discussions to include:
- If Emergency Power has not started within 1-2 minutes after the power outage – consider many areas will be without light or power. Consider checking with each and every Area / Unit to understand the magnitude of the issues.
• Be aware that power loss issues can affect multiple services across the Site, including: Diagnostic Imaging, Surgical Suite, Processing, Freezers (Lab, Food Services, Pharmacy), ICU, IT services, wireless connectivity (Vocera)
• If noticing an increase in complexities or associated problems consider notifying Senior Leadership On-Call and establishing a Command Post
• Send an Urgent Notification of Emerging Issue form

**In Consultation with FM&E:**

- Establish whether FM&E is encountering any issues in completing their **Checklist 1**

  > If FM&E is not on-site, ensure FM&E is dispatched to the Site, to complete **Checklist 1**.

**In Consultation with Protective Services (PS) / Designate:**

- Establish whether PS / Designate is encountering any issues in completing their **Checklist 2**

  > If Protective Services is not on-site, ensure FM&E or other Site Designate completes **Checklist 2**.

**In Consultation Switchboard:**

- Establish whether Switchboard is encountering any issues in completing actions outlined in their response Algorithm.

- Confirm with Switchboard whether the facility’s phone system is operational; including the VOIP phones.

**IT to be notified and request that they check and monitor:**

- If any IT system, voice service, or wireless device (e.g. Vocera, portable phones, wireless medication carts) have been affected on the Site or related issues in the Zone.

- Request that the Help Desk track and communicate any IT related concerns from the site to Site Administration / Administrator On-Call or through IT Incident Response On-Call.

- If IT or phone issues occur, consider the possibility the impact may also be at other Acute Care Sites as well as Community-based facilities. For Community-based facilities consider notifying Community Administrator On-Call
Appendix I

### LOSS OF POWER ELEVATOR ENTRAPMENT ALGORITHM *

<table>
<thead>
<tr>
<th>Protective Services / Designate</th>
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<tbody>
<tr>
<td>Call FM&amp;E to let them know passenger trapped in elevator.</td>
<td>Advise passenger:</td>
<td>Call Site Admin / Admin On-Call to advise of incident and actions being taken.</td>
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<tr>
<td>Determine if there are any medical issues with any passengers.</td>
<td>• Repair staff are on the way</td>
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<tr>
<td>• To call if situation changes</td>
<td>Call Unit(s) where passengers were heading to or coming from to advise of the elevator entrapment.</td>
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<td>Maintain contact with elevator passenger every 5 minutes, update passenger on repairs and release status</td>
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<td>Have Officer meet passenger and gather passenger information</td>
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<tr>
<th>Facilities Maintenance &amp; Engineering</th>
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<tbody>
<tr>
<td>Call elevator service company to respond, and ask for Estimated Time of Arrival (ETA).</td>
<td>Maintain contact with elevator service company, report updates / delays to Protective Services.</td>
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<td>Notify FM&amp;E Manager On-Call (after-hours) for any entrapments.</td>
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<td>Place elevator out of service until all repairs completed.</td>
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<td></td>
<td>Advise Site Admin / Admin On-Call to provide updates and contact information (name / phone #)</td>
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<tr>
<th>Site Administrator / Administrator On-Call</th>
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<tr>
<td>• Ensure FM&amp;E Manager notified if after-hours.</td>
<td>Support Protective Services / FM&amp;E (i.e. brainstorming solutions for unusual circumstances).</td>
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<tr>
<td>• Ensure Unit(s) (originating, receiving) notified.</td>
<td>Identify if serious event criteria met, ensuring arrangements made to respond to situation.</td>
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<td>At end of event, ensure:</td>
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<td>• Upward reporting is completed.</td>
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<td>• Incident logged by Protective Services.</td>
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<td></td>
<td>• Elevator placed out-of-service until all repairs completed.</td>
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* * Where available, Sites may reference their existing Elevator Entrapment procedures

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LOSS OF POWER FIRE WATCH PROGRAM

DEFINITION

Where Fire Protection Systems are out of service, the building shall be provided with a Fire Watch. This is for all occupants and all areas of the building left unprotected by the shutdown, until the Fire Protection Systems have been returned to service.

PROTECTIVE SERVICES / DESIGNATE RESPONSIBILITIES

- the local Fire Department and the monitoring Company MUST be notified when a Fire Protection System is out of service ALSO when it is returned to service
- advise Site Administration / Administrator On-Call of issue and commencement of program
- ensure logs are maintained (refer to "Fire Log Sheet" attached to document). Reproduce as many copies as is needed

FIRE WATCH¹

- The person/s performing the Fire Watch must have a designated Supervisor available and shall:
  - Be identified to FM&E and Protective Services, providing phone numbers for immediate contact
  - Be easily identifiable to building occupants by uniform or clothing
  - Be able, and capable, of promptly notifying emergency agencies and occupants of an incident
  - Maintain a chronological, written log of activities (refer to attached “Fire Log Sheet”) on site for the duration of the Fire Watch
- The Fire Watch shall be in attendance at all times when Fire Protection Systems are out of service, and have sufficient staff to patrol all areas of the building involved, using the following as minimum guidelines:
  - Non residential buildings; during normal business open hours; every 30 minutes, other times every 60 minutes.
  - Buildings with sleeping accommodation, including hospitals, Fire Watch must be continuously on site:
    - Between 2100-0800 hours every 15 minutes
    - Between 0800-2100 hours every 30 minutes

¹ Alberta Fire Code section 2.8.2.8. Shutdown of Fire Alarm Systems and section 6.1 Fire Protection Equipment

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• During the Fire Watch check all exit doors, electronic locking systems on exit doors, and also magnetic hold open devices on separation doors, to ensure that these devices are not operating when a Fire Alarm is out of service.

• The Fire Watch shall have a method of alerting building occupants, making them of what it will be (i.e. Air Horn, etc).

• All building occupants shall be notified of Fire Protection System shut downs or when equipment is out of service.

• Maintain the "Fire Log Sheet" complete the following:
  - name of facility
  - location of facility
  - area assigned
  - frequency of patrols
  - time of each patrol
  - name of person conducting each patrol
  - record all communications sent or received

• Submit "Fire Log Sheet(s)" to Supervisor when Fire Watch is cancelled

CANCELLATION OF FIRE WATCH

The Supervisor, in consultation with Site Administration, Fire Department and others as deemed necessary, will cancel the Fire Watch.
FIRE WATCH PROGRAM

"FIRE LOG SHEET"

Facility Name: ____________________________________________________________

Address:  ______________________________________________________________________

Area Assigned: _________________________ Frequency of patrol: 15 / 30 / 60 min. (circle)

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<thead>
<tr>
<th>Date (yyyy/Mon/dd)</th>
<th>Time (24 hr HH:MM)</th>
<th>Watch Person</th>
<th>Notes; Record of communications Sent or Received</th>
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