

FIRE PROTECTION

EMERGENCY RESPONSE PLAN (ERP)

Lithium-Ion Battery Energy Storage Enclosures

Date:

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1. Introduction

1.1 Purpose

This Emergency Response Plan (ERP) is provided for the Greenwater Battery Energy Storage System (ESS) project located in Sumner, Washington. The following emergency response procedures are provided so that all fire service personnel understand the practices that are to be followed to prepare for and to provide immediate and effective response to emergencies that may arise at the facility. The ESS conditions will be remotely monitored by BrightNight and service technicians will be on site periodically to maintain the enclosures.

1.2 Limitations

This plan does not imply, nor should readers infer, that its implementation will guarantee that a perfect response will be practical or possible. No plan can shield individuals from all events.

Responders will attempt to coordinate the plan and response according to all applicable laws and standards.

Response to emergencies, events or disasters shall only be undertaken to the level of the responders' training, Personal Protective Equipment (PPE), and resources available. There may be little to no warning during specific events to implement operational procedures.

The success or failure of all emergency plans depends upon effective training, continual (e.g., annual) review of this response plan, and execution of the response. Sites and operators shall comply with applicable codes, standards, and other requirements as apply in their locality, even if those codes, standards, and requirements contradict this plan.

Successful implementation of this plan depends on timely identification of capabilities, available resources at the time of the incident and a thorough information exchange between responding organizations and the facility or transporter.

1.3 Facility Description

The Greenwater ESS project is located in Sumner, WA and located on approximately 8 acres of industrial zoned land.

The site utilizes 240 Tesla Megapack 2XL battery enclosures, 60 medium voltage transformers, medium voltage switchgear, project substation with a main power transformer, control room and an O&M building. Access roads will run along the boundary of the site and within the site for maintenance work and first responder access.

Each Megapack 2XL enclosure is comprised of lithium-ion battery modules, power conversion systems, thermal systems, fire detection and protection systems, controls and communication equipment.

Below is a vicinity map (Figure 1) and a simplified map of the facility (Figure 2). Contact information for the site owner (BrightNight) and external support organizations (police, fire department, medical facilities, etc.) that may be called to respond to emergency situations at Greenwater Battery is included in this ERP in Section 2.

Figure 1. Greenwater Battery Vicinity Map

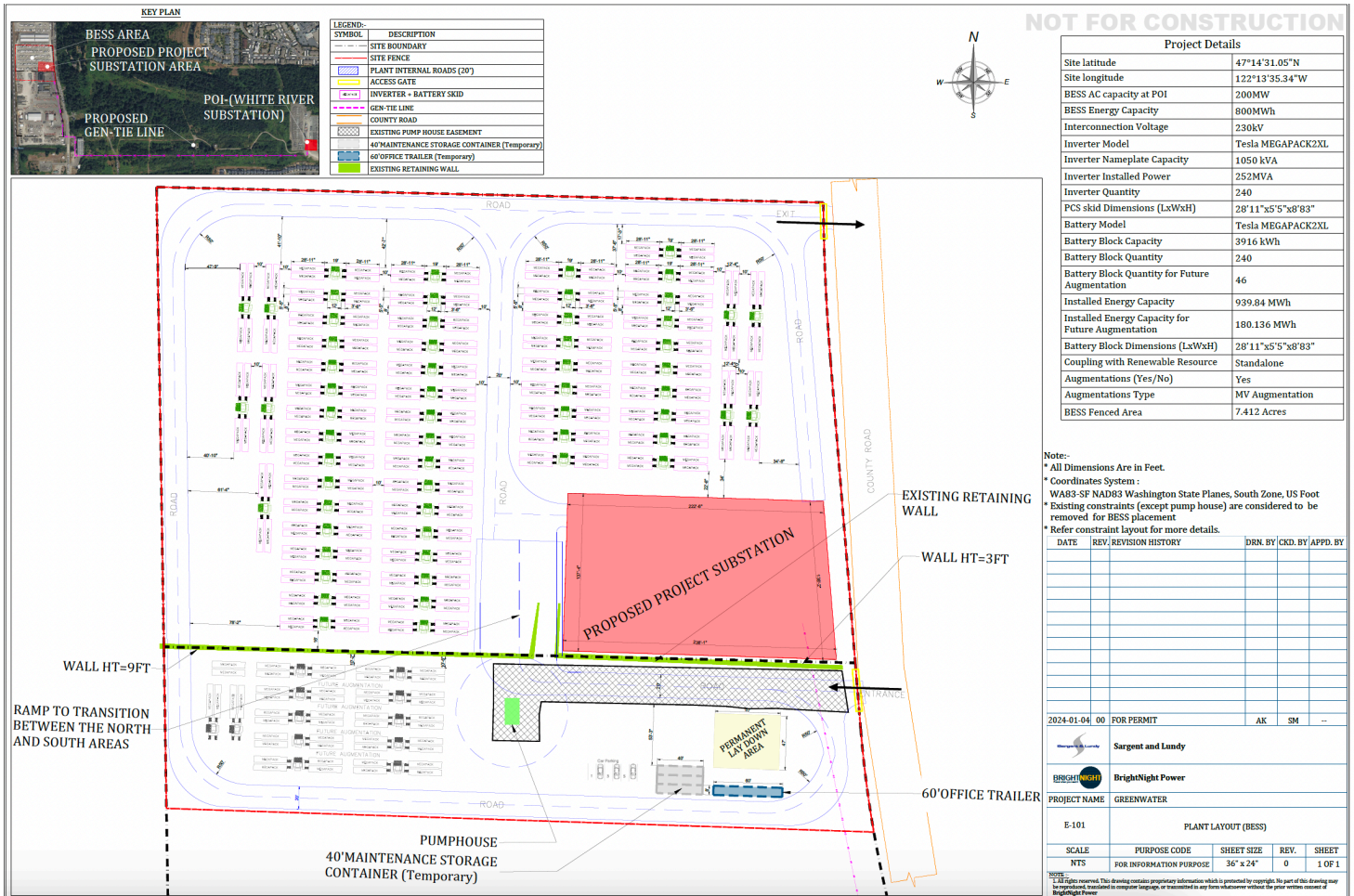


Figure 2. Greenwater Battery Storage Project Site Layout.

1.4 Plan Review and Revision

A review of this emergency response plan shall be conducted and documented at minimum on an annual basis. The plan shall also be reviewed and amended whenever there is a change in facility design, construction, operation, or maintenance that affects emergency response planning. When outside resources are changed or modified the plan shall be reviewed and updated to reflect the changes that may affect this plan.

2. Emergency Response Management

2.1 Overall Organization

Overall responsibility for the Emergency Response Plan (ERP) lies with the Greenwater Battery Site Emergency Response Coordinator. The Emergency Response Coordinator, or their designee, is responsible for program implementation, including designating evacuation routes and employee assembly points, coordinating severe weather activities, communicating emergency response procedures to site personnel, contracting with emergency response organizations, and contractor coordination.

2.2 Roles and Responsibilities

Specific management personnel will assume leadership roles for emergency responses. Note that some of these responsibilities may be combined within the duties of single individuals. The following roles and responsibilities are defined herein and are referenced throughout the ERP.

Company Regional Manager: A Company Regional Manager is an individual not directly responsible for the day-to-day operation of the site, nor for the immediate response during or immediately after an emergency, but who does bear responsibility for post-event assessment and broader planning, recovery, and learning from experience. The Regional Manager would typically be responsible for ensuring incident records are maintained. Such a manager should also ensure a safety-based culture pervades across sites and ensure that O&M Managers are ensuring that training for safety is at the core of operations.

Emergency Response Contractor: An Emergency Response Contractor is an outside organization or individual who is contracted to undertake certain aspects of emergency response (e.g. spill management) but is not otherwise responsible for the strategic coordination of a response, nor is part of typical operation of a site. Care should be taken that such contractors understand the broader picture of site safety and are aware of broader emergency response protocols (such as, but not limited to, the breadth of topics covered in this Plan).

Emergency Response Coordinator: The Emergency Response Coordinator takes control of the emergency and any resources necessary until the emergency has been eliminated and the necessary cleanup and/or restoration are complete. This person shall lead the incident reporting. The emergency response coordinator is typically the O&M Manager; in her/his absence, the Lead Technician or other designated person shall assume this role. All personnel on site shall know who the Emergency Response Coordinator on duty is during their time on site. Remote operators shall likewise know who the Emergency Response Coordinator is for any given shift.

The Emergency Coordinator or a designee will be responsible for notifying the appropriate regulatory agencies and, if necessary, the Emergency Response Contractor or mutual aid groups. A list of emergency contacts and agencies that may be notified in the event of an emergency is provided in this ERP. The incident will be documented and kept on file.

The Emergency Response Coordinator will direct the following activities during an emergency:

1. Oversee the safety of all personnel.
2. Evaluate if operations in the affected area should be shut down.
3. Take precautions to prevent or limit the spread of fire or explosions.
4. Isolate affected area and provide direction for radio announcements.
5. Determine the source/cause of the emergency and evaluate the primary and secondary hazards to allow a full-scale, safe response.
6. Ensure that appropriate internal and external notifications are made.
7. Coordinate outside assistance from public or private organizations.
8. Implement other appropriate response provisions as necessary.

The Emergency Response Coordinator should be accredited in accordance with NFPA 70/70E and the National Electric Safety Code (NESC). If he/she is not, someone who is (e.g. the O&M Manager) must be present in emergencies to interface with electrical equipment above 50 volts.

Incident Commander: The on-scene ranking officer, representing the agency with incident jurisdiction. The Incident Commander authorizes incident objectives and strategies that collectively delineate a course of action. The Fire Department designates an Incident Commander as the primary incident manager; it should not be used by civilian organizations that are operating at an incident with emergency responders.

O&M Manager: The Operations and Maintenance (O&M) Manager is the individual responsible for the normal operation and upkeep of the energy storage system on a day to day basis. This includes standard operating conditions and routine scheduled or responsive maintenance activities.

Lead Technician: A Lead Technician is an on- or off-site individual responsible for the operation of a site from a performance and technical perspective. Such responsibilities may lie with the O&M Manager or with a remote operator.

Site Manager: A Site Manager supervises the personnel for a site. The Site Manager is ultimately responsible for implementation of the company's written procedures and practices.

Subject Matter Expert (SME): An individual and designated secondary contact with detailed working knowledge of the energy storage system and incident command systems. The Subject Matter Expert (SME) should have ready access to information on state of the system, status and meaning of alarms, etc. The SME's contact information must be available to the Emergency Response Coordinator and first responders, as well as others via information on the emergency information notice board.

2.3 Emergency Contact Information

Contact	Address	Telephone Number
Emergency Fire/Sheriff/Ambulance		911
East Pierce County Fire Department		
Pierce County Sheriff's Department		
Tacoma General		

BrightNight Emergency Call Center	Telephone Number
ROCC	
(Plant Engineer) (General Manager)	

Emergency Services & Contactors	Telephone Number
<u>EMERGENCY SPILL RESPONSE CONTRACTOR</u> Sumner Hazmat, Inc. Facility Number 24 Hour Emergency Response	
<u>AGENCY NOTIFICATIONS</u> NRC (24-hour) (Report Oil Spills) Washington Department of Ecology	800-424-8802
<u>ADDITIONAL ASSISTANCE</u> State Poison and Drug Center U.S. Pipeline & Hazardous Material Safety Administration help line	<div style="text-align: center;">800-222-1222</div> <div style="text-align: center;">1-800-467-4922</div>
<u>EQUIPMENT ASSISTANCE</u> United Rentals	

2.4 Pre-Planning

Pre-planning for emergencies is a crucial element of this plan. The following steps shall be taken in planning for emergency situations at the site:

- Fire department and other first responders must receive a copy of this plan and participate in an on-site familiarization meeting.
- All emergency responder access points to the facility shall be identified.
- An emergency response information notice board must be maintained at a location readily visible and accessible to all personnel, identified in Appendix 1, and contain key contacts for emergencies, a list of personnel certified in First Aid/CPR, and other notices as outlined in this document or as deemed appropriate by the Emergency Response Coordinator. Provision shall be made for non-English speaking workers on site.
- All road exits shall be established and posted on the emergency information notice board.
- Evacuation route diagrams must be documented and posted on the emergency information notice board.
- All enclosures and property surrounded by fencing must be marked by signage that identifies specific hazards where required by code.
- Site personnel must receive instruction to keep exits from the site clear.
- Safe approach distances must be established for equipment's different failure modes, personnel must be trained in these distances, and such information is communicated in writing to first responders during drills and other emergency response informational meetings.

- Safety Data Sheets (SDS) provided by manufacturers shall, where relevant, be provided to first responders.

2.5 Emergency Routes

Although the site is primarily a remotely operated facility there will be limited maintenance, service, or site personnel that may be present. A Greenwater battery site evacuation sheet shall be posted, and employees shall be trained to know at least two exits whenever possible and be familiar with the evacuation routes posted in the location indicated on the site map (Appendix 1).

Depending upon the degree of emergency, weather and/or site conditions, roadways as designated on the site map (Appendix 1) will be used for routes of evacuation.

In the event of an evacuation, all personnel will meet at the designated muster point for further information. If the primary muster point is inaccessible or hazardous, personnel shall gather at the secondary muster point and inform the emergency coordinator (if not present) by radio or telephone.

Responder access points shall be kept unobstructed so first responders will not be hindered in their operations when responding to emergencies within the site.

2.6 Communications

Timely and efficient communications are essential to deal with an emergency response situation. The Emergency Response Coordinator is the central point of contact for all involved in an emergency response, including for first responders and Subject Matter Experts (SMEs). The following processes shall be observed during emergency communications:

- Employees using radios/phones shall yield to individuals who are the most directly involved in an emergency response activity, i.e. emergency response takes priority over all other communication on company network.
- Emergency transmissions should be clearly announced using signal words such as 'urgent' or 'mayday.' These signal words give priority to the radio transmitter to proceed with their message.
- If emergency radio/phone communications are interrupted or unclear, employees shall proceed to the muster point identified in Appendix 1.
- All hand-held radios/phones should be recharged daily with back-up batteries ready for use.
- Radios shall be inspected daily for functionality and a radio check shall be transmitted to confirm that both the transmission and receiving functions work. If a radio is not working properly then the employee shall notify the lead technician and make arrangements for some other form of communication while working. Radios that are not working properly shall be placed out of service and labeled appropriately so they will not be used by another employee.
- Provision shall be made for non-English speaking workers on site.

2.7 Personal Protective Equipment

Full firefighter protective gear shall be worn in any response to a fire and/or explosion event or if there is any indication a fire or thermal runaway may be present. This shall include proper use of Self-Contained Breathing Apparatus (SCBA). If no fire or explosion risk is present, protective clothing to protect against arc flash and shock shall be worn. Jewelry such as necklaces shall be removed to avoid contact with any electrical hazard.

2.8 Emergency Response Operations

Any firefighting or rescue operations shall be performed by trained professionals upon their arrival. An incident commander shall be identified, and they will coordinate smoke and fire boundaries as well as Hot, Warm and Cold zones for the scene as required. No employee is required or permitted to place himself or herself in harm's way in order to facilitate extinguishment, evacuation, or rescue.

2.9 Post Emergency Fire Department Procedures

The Incident Commander in consultation with O&M Manager, SME and fire department shall make the final determination regarding when the scene is safe for release. Incident Commander shall make determination of removal of fire and smoke scene boundaries and safety zones. In some circumstances the scene may need to be safeguarded for investigators to examine the event failures. If the event was caused by a criminal act, the O&M manager shall be guided by law enforcement for direction.

2.10 Post Emergency Incident Reporting Procedures

Following any emergency described in this plan, and in compliance with facility permits and other County and/or State requirements, an incident report must be prepared by the Emergency Response Coordinator and transmitted to the appropriate individuals and agencies after review by the Company Regional Manager.

3. Fire or Thermal Runaway Incidents

3.1 Conditions Associated with Lithium-Ion Battery Storage

Electrical, vehicle or other fires not directly involving Lithium-ion batteries should be managed and controlled using typical firefighting and response efforts. In addition, efforts shall be made to limit fire and heat impacts to the battery storage enclosures.

Lithium-Ion battery storage systems present a unique challenge for fire fighters.

A battery energy storage system does not have a single point of disconnect. Disconnects will de-energize select parts of the system, however batteries will remain energized. Stranded electrical energy in fire-damaged storage batteries and other ESS has the potential for reignition long after initial extinguishment. Proper response to electrochemical ESS thermal runaway is automated within the enclosure, but additional site actions may be required for control or for other fires and may include the following procedures and steps:

- System isolation and shutdown

- Hazard confinement
- Fire suppression
- Ventilation

The following hazards may be encountered when fighting fires in lithium-ion battery energy storage systems:

- Electrical enclosures and batteries may not allow water intrusion from the high-pressure stream of a fire hose.
- Shock hazard due to direct contact with energized components.
- Toxic gases
- Thermal runaway
- Explosion hazard

3.1.1 Thermal Runaway

Fires in electrochemical ESS are often a result of a process called thermal runaway resulting in dynamic temperature increase. Initial signs of thermal runaway might include pressure increase at the cell level, temperature increase, and off-gassing. As the process continues, additional signs might include vent gas ignition, exploding cells, projectile release, heat propagation, and flame propagation. As the failure cascades, responders should also be prepared for toxic and potentially explosive gas release. Responders should treat them as highly dangerous and use their full suite of PPE and breathing apparatus when responding.

Rescue personnel should keep their distance unless actively rescuing a person if batteries are in thermal runaway condition.

Refer to the information in the Tesla Safety Manual, Section 7 for information provided by the ESS enclosure manufacturer for additional information on Emergency Response, provided in Appendix 8.

The ESS enclosures are under the control of a site Emergency Management System (EMS) or Local Plant Controller (LPC), which in turn communicate with an offsite fleet controller, SCADA operations center, or other third-party dispatch and monitoring entity. The ESS enclosure alarms will be forwarded to the remote operations and remote operations, or staff personnel on the site, can shut down the ESS enclosure(s) remotely if determined necessary. Note that a system shutdown will not de-energize the battery bank or guarantee that a fault or thermal runaway event has been stopped. Responders and staff should not approach the ESS enclosure or attempt to open the ESS enclosure until deemed safe to do so by the O&M Manager, Emergency Response Coordinator, and Subject Matter Expert.

On-site personnel witnessing an emergency should not assume that automated alarms have reached the Local Plant Controller or Emergency Management System or that such alarms have been passed on to remote operations. Such personnel are advised to call 911 and contact remote operations directly, in addition to other key stakeholders described herein.

3.1.2 Response to Fire Event

In the event of an incipient stage (beginning, small) fire, employees should notify adjacent individuals of this situation and exit the area. Contractors, maintenance staff, or visitors should immediately exit the area upon notification of an emergency condition and proceed to the

designated muster point. Only employees trained in the use of fire extinguishers or other manual fire suppression systems should attempt to use them. Employees are not expected or authorized to respond to fires beyond the incipient stage. The fire department should be immediately notified by dialing 911 when any type of unintended fire has taken place. Site management shall also be immediately notified of any emergency.

For a fire occurring related to the Battery Enclosure:

- Call 911
- Make sure the immediate area of the fire is clear of personnel.
- Account for all employees, contractors, and visitors who were working in the immediate area of the fire. If any personnel are unaccounted for from the immediate fire area, issue a communication throughout the facility to attempt to locate the person(s) missing.
- Contact the O&M Manager and Emergency Response Coordinator immediately.
- Remove obstructions that might impede response to the scene.
- Station available personnel at road intersections to stop traffic flow into the fire scene.
- Evacuate the ESS area immediately if the fire warning alarm sounds or fire warning lights illuminate.
- Proceed to designated muster point for head count. If onsite, the Emergency Response Coordinator will do the head count and relay information/instructions.
- If encountering heavy smoke, stay low, and breathe through handkerchief or other fabric. Move away from the area.
- Assist anyone having trouble leaving the area so long as doing so does not put the assistor at additional risk.
- Do not leave the designated muster point until advised to do so. If risk requires evacuation of the muster point, the secondary muster point must be used and that fact announced via radios and alarms as available.
- The Emergency Response Coordinator will issue an "all clear" only when the fire department informs them that it is safe to do so.
- The ESS is not to be accessed until the O&M Manager or designated Emergency Response Coordinator gives authorization.

Refer to the information in the Tesla Safety Manual, Section 7 for information provided by the ESS enclosure manufacturer for additional information on Emergency Response, provided in Appendix 8.

The ESS enclosures are under the control of a site Emergency Management System (EMS) or Local Plant Controller (LPC), which in turn communicate with an offsite fleet controller, SCADA operations center, or other third-party dispatch and monitoring entity. The ESS enclosure alarms will be forwarded to the remote operations and remote operations, or staff personnel on the site, can shut down the ESS enclosure(s) remotely if determined necessary. Note that a system shutdown will not de-energize the battery bank or guarantee that a fault or thermal runaway event has been stopped. Responders and staff should not approach the ESS enclosure or attempt to open the ESS enclosure until deemed safe to do so by the O&M Manager, Emergency Response Coordinator, and Subject Matter Expert.

On-site personnel witnessing an emergency should not assume that automated alarms have reached the Local Plant Controller or Emergency Management System or that such alarms have been passed on to remote operations. Such personnel are advised to call 911 and contact remote operations directly, in addition to other key stakeholders described herein.

3.1.3 Recommended Suppression

Water spray has been deemed safe as an agent for use on high-voltage systems. The possibility of current leakage back to the nozzle, and ultimately the fire fighter, is insignificant based on testing data published in the Fire Protection Research Foundation report “Best Practices for Emergency Response to Incidents Involving Electric Vehicles Battery Hazards: A Report on Full-Scale Testing Results.”

- Fire-fighting foams are not considered to be effective for these chemistries (lithium-ion batteries) because they lack the ability to cool sufficiently and can conduct electricity.
- Fire-fighting dry chemical powders will not cool the thermal runaway event / battery components.
- Carbon dioxide and inert gas suppressing agents will also eliminate visible flame but will likely not provide sufficient cooling to interrupt the thermal runaway process.

3.1.4 Tesla Enclosure Fire Protection System Summary

The battery storage containers located at Greenwater battery site will have the following characteristics:

- Thermal runaway management
- Overpressure vents / deflagration panels and sparker system
- Fire detection system
- No dry chemical fire suppression
- No clean agent (Novec 1230 or FM-200) fire suppression
- No overall (ceiling) sprinkler system or a deluge system

The Tesla enclosures are IP66 rated steel containers with ten (10) door-swing cabinets. Eight (8) cabinets contain three (3) battery storage modules each, one cabinet contains the customer interface, and another contains the thermal system. The battery storage enclosures located at the Greenwater battery site are provided with the following fire protection systems:

1. Fires or explosion hazards will be mitigated with an explosion prevention venting system designed to maintain flammable gas concentrations below 25% of the lower explosive limit (LEL), also known as the lower flammability limit (LFL), to reduce/eliminate the presence of an explosion hazard with the potential to injure service personnel and emergency responders. The system incorporates passive over-pressure vents that are fitted at the top of the enclosure in combination with an internal proprietary sparker system. This sparker system ignites the hot gases produced during thermal runaway event. Following ignition of the gases by the sparker system, overpressure vents allow the flames and smoke to safely exit via the top of the enclosure.
2. In lieu of ventilation systems, the thermal management system maintains optimal operating temperatures through a liquid cooling system that circulates liquid coolant throughout the battery module and power electronics systems.

Refer to the information in the Tesla Safety Manual for additional information, provided in Appendix 8.

3.1.5 Explosion Control

The Tesla Lithium-Ion batteries may release detectable levels of flammable gases such as hydrogen (H₂) and other hydrocarbons in the event of fire or high temperatures. In the event that flammable gases are present the sparker system will constantly ignite the hot gases produced during thermal runaway event. Following ignition of the gases, overpressure vents allow the flames and smoke to safely exit via the top of the enclosure.

A minimum of seventy-five feet (75') should be maintained between individuals and the incident enclosure whenever explosive conditions may be present as indicated by the enclosure and site fire alarm control panels. Staging of personnel and equipment shall be on the angles of the enclosure to stay out of the blast pressure wave as much as possible, as well as the blast radius of any doors or other potential projectiles.

Only attempt to extinguish fire if imminent threat to life safety exists. Lithium batteries off-gas when heated or when subjected to electrical or physical damage. These gasses can accumulate inside the enclosure at levels well above the Lower Explosive Limit (LEL). Extreme caution shall be taken prior to any attempts to open any compartments or access panels on the system as the introduction of fresh air may bring atmospheric condition back into the explosion range and result in an explosion if a fire or another ignition source is present.

Gas monitoring must be continuously conducted at all times and gas meters should be affixed to all responders to warn of potential atmospheric risks. If possible, gas readings from inside the enclosure should be attempted to be gathered from an exterior point prior to any entry.

3.1.6 Toxic Gas Release

The Tesla Lithium-Ion batteries may release detectable levels of toxic gases including carbon monoxide (CO), Ethylene, Nitrogen Monoxide, Hydrogen Fluoride, Hydrogen Chloride, Nitrogen Dioxide, and Hydrogen Cyanide in the event of fire or high temperatures. The system incorporates passive over-pressure vents that are fitted at the top of the enclosure in combination with an internal proprietary sparker system. This sparker system ignites the hot gases produced during thermal runaway event. Following ignition of the gases by the sparker system, overpressure vents allow the flames and smoke to safely exit via the top of the enclosure.

Personnel should remain clear of the enclosure and no entry shall be permitted during an off-gassing event unless there is imminent threat to life safety at which only properly trained and equipped personnel may approach or enter. This entry shall be with full firefighter protective gear to include self-contained breathing apparatus (SCBA). The entry in this situation shall be at the sole discretion of the Incident Commander.

Chemicals released during a fire or explosion will be in a gaseous form and primarily pose an explosion hazard. However, as water is used in extinguishing flames, these gasses can become acids which may cause skin irritation.

3.1.7 Assessing when it is safe to approach or open the enclosure.

Batteries remain energized even if all the contacts, breakers, and switches have been opened. Toxic or flammable gas may be present inside the enclosure. Visual observation of the exterior may not provide any information on the conditions within. The Incident Commander, with support from First responders and Operations Manager should remotely monitor data and information from the battery management system (BMS) and the Fire Alarm Panel to assess the conditions internal to the enclosure.

If the BMS and fire alarm panel are reporting, the following information should be available:

1. Alarm status
2. BMS can provide internal temperature and location information if thermal runaway has occurred as well as elevated temperature information for cells that may be at risk of entering thermal runaway.

During such a situation, it is likely that hot gases would be released in a safe and controlled manner from the overpressure vents at the top of the enclosure. Therefore, it is unlikely that flammable gas concentrations within the enclosure are above the LEL, based on a credible event.

If the conditions inside the enclosure have caused the fire alarm panel and the BMS to cease reporting and the exhaust ventilation system is not functioning and ventilating the enclosure, then extreme caution should be utilized including maintaining a safe distance and **NOT** opening the enclosure. It is recommended that first responders stay clear of the enclosure and allow the enclosure to burn itself out. Defensive firefighting is recommended only to prevent spread to nearby enclosures or equipment if the Incident Commander determines this is a possibility. It may take more than 24 hours for the cells in an enclosure to cool to the point where additional thermal runaway is unlikely. Monitoring for the presence of smoke (which precedes or coincides with thermal runaway) and remote monitoring of the exterior temperature of the enclosure may provide information about the risk of fire or explosion. Maintaining a safe distance, air monitoring and a fire watch for 48 hours after temperatures drop and no smoke has been observed may be required to ensure it is safe to approach or open the enclosure.

3.1.8 After a Fire

Hazards after a fire should be identified at the time of installation such that recommendations for personal protective equipment (PPE) are available for clean-up crews and hazardous materials (HAZMAT) teams. This may include respirators to protect personnel from toxic gas that continues to be generated from hot cells. Firewater retention and cleanup measures shall be evaluated after the event to determine appropriate actions. Once first responders have turned the site control back to the BrightNight O&M Manager, first responders should direct on-site personnel on procedures for securing the site for safety and pending investigation, in coordination with the Emergency Response Coordinator, and the Subject Matter Expert.

In addition to the gas generation risk, cells that remain hot also pose a delayed ignition risk, known as thermal runaway, whereby heat in the cell may transfer to undamaged adjacent cells and reignite the fire. As such, fire-damaged equipment must remain monitored for a period of 48 hours or more as recommended by the equipment manufacturer and SME.

O&M Manager approved ESS Qualified personnel are required to safely remove damaged ESS equipment from the facility. Care should be taken to confirm that damaged batteries containing energy have been safety de-energized in accordance with disposal procedures, if possible, before handling and disposal. If unable to completely de-energize batteries involved in a fire, care should be taken with handling or dismantling battery systems involved in fires as they may still contain hazardous energy levels.

4. Medical Emergency

4.1 Medical Emergency Response Procedures

If an employee is injured, or an accident has occurred on site and first aid is not enough treatment for the emergency, 911 must be called. The call to 911 can be made by phone by any available site personnel. The caller must state to the dispatch that they are at the EPC Contractor Greenwater Battery Energy Storage facility. A second notification will be made to the O&M Building, to inform others of the situation.

4.1.1 Attending an Incident

When attending an incident, the following procedures apply:

1. Clear a path to the injured person for Operations and/or Safety Managers and assign personnel to assist with signaling EMS responders to the location of the incident.
2. Identify location of Project Site entrance nearest to the incident and notify EMS responders.
3. Operations and/or Safety Managers shall meet EMS responders at site entrance.
4. Direct and accompany EMS responders to location of incident.
5. Follow all directions of EMS responders.
6. Contact management personnel and/or subcontractors.
7. Document incident and keep on file.

4.1.2 Medical Facilities

The nearest medical facility to the project site is: MultiCare Auburn Medical Center, located at 202 N Division St, Auburn, WA 98001

5. Security Incidents

5.1 Bomb Threat

5.1.1 Response Plan

The purpose of this plan is to give direction to all site personnel in the event the Greenwater battery site is a target of an actual or threatened bomb assault/attack.

Anyone receiving a bomb threat shall:

1. Treat the caller with courtesy and respect. Complete the Bomb Threat Report (Appendix 4). Use this sheet as a reference while talking with the caller making the threat.
2. Attempt to obtain as much information as possible. See the "Bomb Threat Checklist" (Appendix 5).
3. Immediately notify the Greenwater battery site Emergency Coordinator by phone. Stop all radio transmissions from this point on until cleared by the Emergency Coordinator or other competent authority. Radio transmissions can activate electronic detonating or timing devices.

The Emergency Response Coordinator will immediately notify 911. The Emergency Response Coordinator shall:

1. Evaluate the threat and determine the appropriate course of action to take.
2. Notify law enforcement and/or ambulance.
3. Evacuate the facility as necessary.
4. Coordinate evacuation of any part of the surrounding community with local authorities as needed.
5. Coordinate search of the site with proper authorities.

5.1.2 Suspicious Items

If any suspicious item(s) are found, they are not to be touched. Barrier tape will be used to mark the area where the suspicious item(s) are by extending a continuous line of tape beginning immediately in front of the suspicious item(s) and extending to just outside the room exit. This will help guide local authorities to the suspicious item.

The Emergency Response Coordinator will be responsible to communicate the "All Clear" message once the threat has passed or is no longer present.

5.2 Chemical/Biological Agent Threat

The procedures described previously for a bomb threat should be used for a chemical or biological agent threat.

Any person that is exhibiting signs and symptoms from a chemical or biological agent should be isolated from other workers and be prepared for transport by EMS.

5.3 Sabotage or Vandalism

Anyone detecting any act or threat of any act of sabotage or vandalism will immediately notify the Emergency Response Coordinator. The Emergency Response Coordinator will evaluate the situation and decide what actions to take. The following options should be considered and/or implemented:

1. Notification of 911.
2. Corrective action as required, providing that no person will risk injury.
3. Evacuation of the facility.

5.4 Active Shooter

In an active shooter situation, employees should:

1. Quickly determine what actions to take to protect life: options include run, hide, and fight (described in the DHS' Ready.gov site). Use best judgment based on the specific circumstances of the incident. Getting away from the shooter(s) is the top priority. Call 911 when in a safe location and warn/prevent individuals from entering an area where an active shooter may be if possible.
2. When encountering responding police, remain calm and follow any and all instructions from the officers.

6. Environmental Hazards

6.1 Flooding and Flash Floods

Flash flooding is a result of heavy localized rainfall such as that from slow moving intense thunderstorms. Flash floods often result from small creeks and streams overflowing during heavy rainfall. These floods often become raging torrents of water which rip through riverbeds and canyons, sweeping everything with them. Flash flooding can occur within 30-minutes to six hours of a heavy rain event. In hilly terrain, flash floods can strike with little to no advanced warning. Distant rain may be channeled into gullies and ravines causing flash flooding in minutes. In the event of a flash flood, the following procedures shall apply:

- During Periods of Thunderstorms:
 - Always remain alert to heavy rains in your immediate area or upstream from your location. It does not have to be raining at your location for flash flooding to occur.
 - Avoid all topographic depressions which may act as a channel or receptacle for the flood water.
 - If you are in a vehicle and are positioned in a dry stream or riverbed, move the vehicle to high ground, or abandon the vehicle and seek high ground. If you are already in the stream of water, stay with the vehicle and get on top of the roof.
 - Wait for the flood waters to subside before moving from the area.
 - Be aware of possible lightning.
- Once the Flashflood has Stopped:
 - Report to management of the designated area.
 - Attend to any injured, but do not move them unless they are in an unsafe area. Moving them may cause further injury.
 - Management will contact those who are outside by radio.

- Call 911 to report any injuries, fires, spills, or to receive any other emergency aid.
- The designated onsite Incident Commander will contact those who are outside by radio or phone.
- After all are Accounted For:
 - Management will evaluate the extent of the damage and make the decision whether or not to evacuate the site.
 - Check water, and electrical lines, buildings, transformers, containers, inverters etc. for damage.
 - Do not approach downed power lines. Call Puget Sound Energy(PSE) to notify.
 - The incident commander will contact senior management and provide a status report.

6.2 High Winds

Upon the issuance of high wind warnings:

- Take cover in a safe location. Lie down alongside walls.
- If inside, stay inside. If outside, find a secure object that you can attach yourself to. Seek cover alongside building foundations or in trenches. Cover your head and face with your arms and keep your legs tightly together.
- Remain in place until the high winds subside to a safe speed. Move only when it is safe to do so. Call for help if you cannot move,
- Report to management or muster area for roll call.
- If any person is missing, a search will be made to determine his/her location and condition, only if it is safe to do so.
- Attend to any injuries, but do not move unless they are in an unsafe area.
- Call 911 for emergency assistance.

6.3 Earthquakes

Earthquakes may strike with little to no advance warning. Earthquakes may result in a lack of basic necessities and loss of life, road and bridge damage, and collapse of buildings or destabilization of the base of buildings. Be aware that some earthquakes are actually foreshocks and a larger earthquake may subsequently occur. Many earthquakes are also accompanied by aftershocks after the main event has occurred.

- Earthquake Preparedness:
 - All employees must be trained in the earthquake procedure and evacuation plan.
 - The escape routes must be posted in all buildings.
 - Safety meetings and drills must be held on earthquake preparedness at least annually.
- At the Onset of an Earthquake:
 - Drop to the ground, cover your head and hold on to a sturdy object if available.
 - If outside, quickly find an area clear of possible falling objects.
 - Remain in a safe area until all movement has stopped.
- When the Earthquake has stopped:
 - Report to the safest, closest designated area
 - Attend to any injured persons. Do not move them unless they in an unsafe area. Moving them may cause further injury.
 - The designated onsite Incident Commander will contact those who are outside by radio or phone.

- Be aware that there may be aftershocks that may be large enough to do additional damage to structures that were weakened during the original quake.
- After all are Accounted For:
 - Management will evaluate the extent of the damage and make the decision whether or not to evacuate the site.
 - Check water, and electrical lines, buildings, transformers, containers, inverters etc. for damage.
 - Do not approach downed power lines. Call Puget Sound Energy(PSE) to notify.
 - The incident commander will contact senior management and provide a status report.

6.4 Lightning

In the event a lightning storm is within 10 – 30 miles and approaching the site, the following procedures will apply.

- Notify O&M Manager and all on-site employees.
- Stop work safely and head to staging and laydown yards in vehicles.
- Remain at staging and laydown yards, get update on weather conditions.

At the Onset of Lightning:

- If you are inside, stay inside. Avoid contact with any conductive objects. Stay clear of electrical power sources. Stay off of landlines.
- If you are outside, get inside a vehicle if available. If no shelter is available, get on the ground.
- If you are caught in an open area, act quickly to find adequate shelter. The most important action is to remove yourself from danger. Crouching or getting low to the ground can reduce your chances of being struck but does not remove you from danger.
- If you are caught outside with no safe shelter nearby, the following actions may reduce your risk:
 - Immediately get off elevated areas such as hills, mountain ridges, or peaks.
 - Never lie flat on the ground. Crouch down in a ball-like position with your head tucked and hands over your ears so that you are down low with minimal contact with the ground.
 - Never shelter under an isolated tree.
 - Never use a cliff or rocky overhang for shelter.
 - Immediately get out of and away from any body of water.
 - Stay away from objects that conduct electricity (barbed wire fences, power lines, etc.)

To be included in final ERP when design and final site layout complete

1. Muster locations and evacuation routes (Primary/Secondary)
2. First aid locations
3. Eye wash stations
4. Vehicle access routes
5. Spill response materials
6. Water tanks
7. Site Control room
8. Site Maintenance facility
9. Etc.

REVISION NUMBER/DATE	SECTION	DESCRIPTION	APPROVAL
Prelim for Initial Review		Draft	[XX]

Appendix 3: Incident Report Form

HAZARDOUS MATERIALS INCIDENT REPORT

INITIAL CONTACT INFORMATION

(Check one): _____ **REPORTED/ACTUAL INCIDENT** **DRILL/EXERCISE**

1. Date/Time of Notification: _____ Report re[XX]ved by: _____
2. Reported by (name & phone number or radio call signs): _____

3. Company/agency and position (if applicable): _____
4. Incident address/descriptive location: _____

5. Agencies at the scene: _____

6. Known damage/casualties (do not provide names over unsecured communications): _____

CHEMICAL INFORMATION

7. Nature of emergency: (check all that apply)
 Leak Explosion Spill Fire Derailment Other
Description: _____

8. Name of material(s) released/placard number(s): _____
9. Release of materials:
_____ Has ended _____ Is continuing. Estimated release rate & duration: _____
10. Estimated amount of material which has been released: _____
11. Estimated amount of material which may be released: _____

12. Media into which the release occurred: _____ air _____ ground _____
water
13. Plume characteristics:
- a. Direction (Compass direction of plume): _____ c. Color: _____
- b. Height of plume: _____ d. Odor: _____
14. Characteristics of material (color, smell, liquid, gaseous, solid, etc) _____
15. Present status of material (solid, liquid, and gas): _____
16. Apparently responsible party or parties: _____
- _____
- _____
- _____

Note: THIS INCIDENT REPORT IS ONLY AN EXAMPLE. IT CONTAINS SOME OF THE INFORMATION REQUIRED TO REPORT AN INCIDENT TO THE SERC. Go to www.ecy.wa.gov/epcra to obtain a reporting form for businesses to submit to the SERC. This form can be used at an incident, if applicable.

ENVIRONMENTAL CONDITIONS

17. Current weather conditions at incident site:
- Wind From: _____ Wind Speed (mph): _____ Temperature (F): _____
- Humidity (%): _____ Precipitation: _____ Visibility: _____
18. Forecast: _____
19. Terrain conditions: _____
- _____

HAZARD INFORMATION
(From ERP, MSDS, CHEMTREC, or facility)

20. Potential hazards: _____
- _____
21. Potential health effects: _____
- _____
22. Safety recommendations: _____
- _____
23. Recommended evacuation distance: _____
- _____

IMPACT DATA

24. Estimated areas/ populations at risk: _____
- _____
25. Special facilities at risk: _____

26. Other facilities with HAZMAT in area of incident: _____

PROTECTIVE ACTION DECISIONS

27. Tools used for formulating protective actions

_____ a. Recommendations by facility operator/responsible party

_____ b. *Emergency Response Plan*

_____ c. Material Safety Data Sheet

_____ d. Recommendations by CHEMTREC

_____ e. Results of incident modeling (CAMEO or similar software)

_____ f. Other: _____

28. Protective action recommendations:

_____ Evacuation _____ Shelter-In-Place _____ Combination _____ No Action

_____ Other _____

Time	Actions Implemented
_____	_____
_____	_____
_____	_____

29. Evacuation Routes Recommended: _____

EXTERNAL NOTIFICATIONS

30. Notification made to:

_____ National Response Center (Federal Spill Reporting) _____ 1-800-424-8802

_____ CHEMTREC (Hazardous Materials Information) _____ 1-800-424-9300

_____ State Emergency Response Commission

_____ SERC written follow-up forms

31. Other Information: _____

- voices
- mixed sounds
- airplanes
- music
- traffic

• party Other: _____

If the voice is familiar to you, who did it sound like? _____

Additional Information: _____

Date ____ / ____ / ____ Time: _____ : _____ a.m./p.m.

Re[XX]ved by: ____

Mail Threat:

- _____1. Handle documents as little as possible to preserve fingerprints.
- _____2. Hand deliver immediately to O&M Manager.

Phone Threat:

- _____1. Complete Bomb Threat Form.
- _____2. Deliver completed form to O&M Manager.
- _____3. Notify Supervisor immediately.

O&M Manager:

- _____1. Gather all information regarding threat.
- _____2. Decide upon course of action.
- _____3. Coordinate searches with proper authorities.

Suspicious Objects:

- _____1. DO NOT TOUCH OR ATTEMPT TO MOVE!
- _____2. Notify Police—911.

Evacuation:

- _____1. Announce over public address system, give location where to assemble. Do not use the radio.
- _____2. Enlist volunteers to remain and shut down site.

Re-entry:

- _____1. Determined based on:
 - _____a. "All-clear" given by bomb disposal unit.
 - _____b. O&M Manager's judgment that danger is passed.
- _____2. Full report prepared.

*****KEEP CALLER ON THE LINE AS LONG AS POSSIBLE*****

Exact words of caller:

Questions to ask the caller:

1. What chemical or biological agent is it? _____
2. When is the agent going to be released? _____
(date) (time)
3. Where is it right now? _____
(Building) (Floor) (Room)
4. Who put it there? _____
5. What does it look like? _____
6. What will cause it to spread? _____
7. What will trigger it? _____
8. Where did you get the agent? _____
9. Why are you doing this? _____
10. What is your name? _____
11. What is your telephone number and address? _____

Try to determine the following

IDENTITY: • male • female • adult • juvenile (age?_____)

VOICE: • loud • high-pitched • deep • raspy • pleasant

 • disguised • broken Other: _____

ACCENT: • local • not local • foreign • regional: _____

RACE: • Caucasian • Black • Hispanic • Asian

 Other: _____

SPEECH: • educated • average • illiterate • obscene

 Other: _____

MANNER:

- calm
- angry
- rational
- irrational
- coherent
- incoherent
- deliberate
- self-righteous
- laughing
- intoxicated

BACKGROUND NOISES:

- office machines
- factory machines
- bedlam
- trains
- quiet
- voices
- mixed sounds
- airplanes
- music
- traffic
- party
- Other: _____

If the voice is familiar to you, who did it sound like? _____

Additional Information: _____

Date ____ / ____ / ____ Time: _____ : _____ a.m./p.m.

Re[XX]ved by: ____

Appendix 7: Chemical/Biological Agent Threat Checklist

Mail Threat:
____ 1. Handle documents as little as possible to preserve fingerprints. ____ 2. Hand-deliver immediately to O&M Manager.
Telephone Threat:
____ 1. Complete the Chemical/Biological Threat Report form. ____ 2. Deliver completed form to O&M Manager immediately.
O&M Manager:
____ 1. Gather all information regarding threat. ____ 2. Decide upon course of action.
Searches:
____ 1. Comprehensive—To be conducted by trained law enforcement personnel only.
Suspicious Objects:
____ 1. Do not touch or attempt to move. ____ 2. Notify police.
Evacuation:
____ 1. Make a site-wide announcement and give location where to assemble. ____ 2. Enlist volunteers to remain and shut down site.
Re-entry:
____ 1. Determined based on: ____ a. “All-Clear” given by competent authority. ____ b. O&M Manager’s judgment that danger has passed. ____ 2. Full report prepared.

Appendix 8: Tesla Safety Manual