EMERGENCY RESPONSE PLAN

BATTERY ENERGY STORAGE SYSTEM (BESS)
TAYLOR & FENN – WINDSOR, CT

ENDURANT ENERGY

AUGUST 2023 – REV. 0.0

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EMERGENCY RESPONSE PLAN

This draft ERP has been prepared as part of the project planning phase of the Project. The Plan will be updated to reflect site specific input from the local fire department and permitting groups. The plan will be updated as needed in accordance with Section 1.4. A running Record of Changes will be maintained.

RECORD OF CHANGES SUMMARY

Rev.	**Description of Change**	**Sec. /Pages**	**Date**	**By**
0.0	Initial DRAFT Plan for planning purposes	Throughout	08/05/23	DM

Prepared By	**Reviewed By:**	**Approved By**
Dan McDevitt		
Title:	**Title:**	**Title:**
Date:	**Date:**	**Date:**

1.0 INTRODUCTION

Endurant Energy is a market-leading EPC and energy-as-a-service (EaaS) solutions provider, specializing in distributed energy resource (DER) project developments. Endurant is an LS Power portfolio company headquartered in Chicago, IL with offices in New York, NY; Irvine, CA; and Los Angeles, CA. Endurant develops and owns outstanding reliable, resilient, clean, and cost-effective energy infrastructure solutions, enabling the future of sustainable distributed energy.

Endurant Energy will design, install and operate a 7.0MW/14.0 MWh Battery Energy Storage System (BESS) at the location referenced in Section 1.1. The BESS will be used to provide various services for the customer including potential demand response as well as potential future utility market participation.

The BESS system is connected to the utility grid at 13.8kV as well as behind the utility meter to the customer 480V electrical system. The BESS manufacturer is anticipated to be Canadian Solar Inc. (CSI), a Canadian manufacturer of BESS systems with over 2,300 MWh of similar installations.

The BESS system will be located behind a secure fenced area within the customer's property line.

This Emergency Response Plan (ERP) documents the procedures in place to prepare for and respond to an emergency at the BESS Project. The Plan delineates emergency response responsibilities of personnel and identifies mutual aid resources available by off-site responders. The plan identifies training provided to site personnel in responding to emergencies and identifies drill procedures and incident investigation procedures.

1.1 Site Description

Project Location/Address

Taylor & Fenn
22 Deerfield Road
Windsor, CT 06410

A description of the site and the project details are presented in Attachment A.

1.2 Site Security

The BESS Project is entirely within a 9-foot fenced area. Access to the equipment is granted through a keyed locked gate. The gate is closed and always locked, and access is limited to those persons requiring access to maintain the safe operation of the equipment.

Visitors and contractors are required to sign into a written log-in system maintained by the site host. All visitors and contractors are assigned an on-site personnel contact and are accompanied by a Project escort upon initial entry to the Project.

The Project is unstaffed except for periods of routine maintenance which will typically occur over an 8 hr. period semi-annually. Remote system operators monitor the Project 24 hours per day 7 days a week. Remote system operators have access to Project operating data via the Endurant

SCADA control system (SCADA = Supervisory Control and Data Acquisition) which collects data from the BESS Energy Management System which monitors all operating data and controls system operation.

Lighting is provided throughout the exterior of the site. Additional security measures include communications with site host representatives, audible and visible fire alarms, and cell phone communication between the remote system operators and contractors.

1.3 Plan Review

The ERP is reviewed annually and as soon as practicable after any of the following situations:

1. Applicable regulations are revised
2. The ERP fails in an emergency
3. Circumstances arise that may increase the potential for emergencies, such as changes in Project design, construction, operation or maintenance practices
4. Emergency response procedures change
5. The list of emergency contacts or coordinators change
6. The list of emergency equipment changes, or
7. A significant change occurs in the operation of the Project

2.0 FACILITY ORGANIZATION

2.1 Facility Staffing

The Project is unstaffed except for periods of routine maintenance. Offsite personnel are available remotely via cell phone to support an initial emergency response. The host facility also has a designated contact person assigned to the system. The system is continuously monitored remotely, and staff personnel and emergency response are automatically contacted during an emergency response event as outline herein.

In addition to Endurant employees, outside vendors and contractors may visit the site. The number of contractors on site increases during routinely scheduled outages when the Project is shut down for maintenance activities.

2.2 Emergency Response Roles

2.2.1 Emergency Coordinator

The Project Manager assumes the role of the Emergency Coordinator. If the need arises, additional Project personnel will support the Emergency Coordinator with technical, operational or site-specific data.

The Emergency Coordinator is considered the "person in charge" of the Project and the operations during an emergency until such time that emergency response agencies (i.e., police, fire) arrive on-scene. The Emergency Coordinator is authorized to shut down, signal an evacuation of the Project, if necessary, and direct response contractors to mobilize to the Project.

The specific duties of the Emergency Coordinator are as follows:

- Assess the emergency and determine the appropriate level of response
- Direct on-site response activities
- Assess the actual and potential hazards that the emergency may create for Project employees, Project equipment or the environment
- Direct on-site evacuation, as needed
- Provide site resources and personnel to assist off-site emergency responders
- Act as a liaison between the Project and the responders, and
- Enter the incident into the incident reporting system and lead the incident investigation following the emergency.

2.2.2 Project Manager

The Project Manager has overall responsibility for ensuring that Endurant has sound emergency response and regulatory compliance programs, that they are fully implemented and adequately funded and equipped, that all affected personnel receive appropriate training, and that the plan is updated and revised as needed.

During an emergency, the specific duties of the Project Manager are as follows:

- Act as the Emergency Coordinator, as described above
- Contact outside agencies to request emergency support as needed, make regulatory and corporate notifications as needed
- Provide personnel and financial resources necessary to respond to an emergency
- Act as a liaison between the Project and the responders
- Enter the incident into the incident reporting system, and
- Lead the incident investigation following the emergency.

2.2.3 Remote System Operator

The Remote System Operator is responsible for communications and monitoring of Project operations during an emergency. The Remote System Operator may become aware of an emergency via system monitoring and contact the Emergency Coordinator and off-site emergency responders as necessary. If an emergency is reported to the Remote System Operator, the Remote System Operator will immediately report the information to the Emergency Coordinator. The Remote System Operator will assist the Emergency Coordinator as needed and will assist with the incident investigation process following the emergency.

2.2.4 All Employees

All employees are responsible for reporting the discovery of an emergency to the Emergency Coordinator. Employees are not required to perform emergency response activities except to call 911. Employees may provide basic first aid during a minor medical emergency. Employee training is detailed in Section 7 of this plan.

2.3 Off-Site Emergency Organizations

Certain emergencies require response from off-site emergency organizations. Effective emergency response planning and response is dependent on close, ongoing coordination between Endurant and off-site emergency organizations.

The following emergency organizations will be contacted as needed to respond to site emergencies.

2.3.1 Local Fire Department

Endurant coordinates with the Local Fire Department, as it is the primary off-site response agency. To ensure the Fire Department is familiar with the Project, its operations and its emergency response procedures, the following are conducted:

- Furnish the Fire Department with a copy of this plan
- Periodically conduct and maintain a record of site visits with off-site responders to familiarize them with the Project physical layout, operations, type and location of equipment, and evacuation routes
- Invite members of the Fire Department to participate in training exercises that simulate emergencies and
- Solicit input in analyzing and making suggestions for improving this plan

2.3.2 Local Police Department and State Police

The local Police Department and the State Police are the local law enforcement agencies. In response to a notification of an emergency at the site, the local Police Department and/or the State Police will provide necessary law enforcement assistance if required. In the event of a full Project off-site evacuation, the local Police Department would assist in traffic control.

2.3.3 LEPC

This project will not trigger applicability to the emergency planning, notification and reporting requirements set forth in the Emergency Planning Community Right-To-Know (EPCRA) regulations. However, Endurant will be actively cooperating with local fire department which is integrated with the emergency planning processes of the Local and state Emergency Planning Commission (LEPC).

Coordination of the response resources in the event of an emergency would be triggered through a site call to 911 for response.

2.3.4 State Fire Marshal's Office

In response to a notification of an emergency, the State Fire Marshal's office may assist in arson investigations, sabotage response and disposition of bombs or suspected bombs.

2.3.5 Spill Cleanup Contractor

No hazardous liquids or materials will be stored onsite. Operating equipment containing coolants and small amounts of lubricating oils have the potential to result in leaks and drips, but a liquid spill is not likely. If there were a spill or release during maintenance activities, all but minor spill response and cleanup would be contracted through a third party. The preferred spill cleanup contractor is identified in the Emergency Contact Information, provided in Attachment B of this plan.

2.3.6 Licensed Site Professional

Any cleanup activities related to reportable hazardous materials spills or contamination must be overseen by a Connecticut licensed environmental professional (LEP). The preferred LEP is identified in the Emergency Contact Information, provided in Attachment B of this plan.

2.3.7 Local Ambulance and Hospital

Hartford Hospital, in Hartford, Connecticut, is available to provide emergency treatment for injured personnel and is located approximately 6.2 miles from the Project. Local ambulance service is available for offsite transportation for medical care.

Emergency Contact Information for response agencies and Endurant personnel is provided in Attachment B.

3.0 EMERGENCY RESPONSE APPROACH

3.1 Emergency Classification

The Endurant response system is simple in that employees only act defensively in the event of an emergency. All offensive response actions are handled by trained outside responders. As a result, emergencies at the site are classified as either "controllable" or "uncontrollable," based on the site's ability to manage the situation without outside assistance.

3.1.1 Controllable Emergency

A "Controllable Emergency" meets **all** of the following definitions:

- Minor in nature, meaning:
  - No one has or is likely to become injured or
  - If injuries have occurred, they are first aid only and
  - Onsite personnel have the training and equipment needed to contain or stop a release of a hazardous material (liquid, solid, gas, including smoke) without the assistance of off-site responders.
- Confined to the site and falls within the training of site personnel
- Can be handled without the assistance of off-site emergency responders.

Examples of Controllable Emergencies that may occur include the following:

- An injury to a site contractor that requires basic first aid for treatment or
- A small leak of an oil, which can be absorbed, neutralized or otherwise controlled at the time of release.

3.1.2 Uncontrollable Emergency

An "Uncontrollable Emergency" meets **any** of the following definitions:

- An event that has or could potentially go beyond the defensive capabilities of site personnel
- Involves injuries that require treatment beyond first aid or
- Requires off-site emergency response resources because the expertise or equipment required to respond is not available or because the emergency could impact off-site receptors.

Examples of Uncontrollable Emergencies that may occur include the following:

- An injury which requires advanced medical treatment (bracing, splinting, stitches)
- Any fire within the equipment which has the potential to become bigger, or
- A significant gas leak during a fire.

3.2 Phases of Response

3.2.1 Discovery

This phase encompasses discovery of the incident through mobilization of the response system. Any Endurant employee may be involved in this phase. Discovery of the incident is immediately reported to the Endurant Project Manager, who assumes the role of Emergency Coordinator.

3.2.2 Initial Response

This phase begins when the Emergency Coordinator assumes control or in the case of an outside responder, the Incident Commander arrives on the scene. It encompasses the assembling of resources necessary to address the incident. This phase is complete when there is no longer imminent danger to human health, the environment or project equipment.

Endurant employees may become involved in this phase for Controllable Emergencies that are within the capabilities of personnel. In the case of an Uncontrollable Emergency, the Endurant Emergency Coordinator relinquishes control to the outside responder Incident Commander when they arrive on the scene. The Incident Commander for Uncontrollable Emergencies will **always** be an outside responder. Endurant' s Emergency Coordinator will have the responsibility of briefing the outside Incident Commander upon their arrival on-site, providing Project communications throughout the incident and acting as liaison between the response agencies and the Project.

3.2.3 Sustained Response

This phase encompasses continued management of the incident after the emergency is controlled. This can include cleanup and/or remediation of affected areas, quantifying contaminants released or remaining in the environment, and implementation of the communications plan. Some tasks initiated in this phase, such as remediation, may continue into the next phase.

Endurant personnel may play a part in this phase at the request of the outside Incident Commander if the duties are within their realm of training and experience.

3.2.4 Demobilization/Termination

This phase begins when off-site responders demobilize and depart. It encompasses decontaminating equipment, disposing of and proper documentation of wastes, removing damaged equipment from the site, maintaining site safety and security, and returning response equipment to its useable condition and readily available location.

Endurant personnel will play a part in this phase if the duties are within their realm of training and experience.

3.2.5 Follow-up

This is the administrative conclusion to the incident, which includes preparation of reports, investigations, critiques, and follow-up to recommendations. This phase is the responsibility of Endurant employees, led by the initial Endurant Emergency Coordinator.

3.3 Incident Command System and Phases of Response

The Incident Command System (ICS) is a structured framework from which emergency incidents can be managed. At its most basic level, the ICS consists of an Incident Commander providing direction to a small group of team leaders, or officers, following a plan of response that includes prescribed personnel functions and procedures specific to the incident.

3.3.1 ICS for Controllable Emergencies

The ICS structure at Endurant for a Controllable Emergency is very straightforward. The Emergency Coordinator is the Incident Commander, and direction on the response to the emergency is the Emergency Coordinator's responsibility.

3.3.2 ICS for Uncontrollable Emergencies

The off-site responders who will respond to an Uncontrolled Emergency operate under the ICS. Typically, the senior officer of the Fire Department will assume the role of Incident Commander. When the responder arrives, the Endurant Emergency Coordinator will provide a briefing, and transfer incident command to the off-site responder. Throughout the incident, the Endurant Emergency Coordinator will serve as a continuing source of knowledge about Project equipment, hazardous materials and personnel capabilities.

Under the direction of the Incident Commander, Endurant personnel contribute to response activities through labor and knowledge of the Project. The Incident Commander will assess the incident, any response made so far, and Project emergency response equipment. The Incident Commander will formulate response objectives and a tactical response plan and will integrate Endurant resources into the plan. Once the Incident Commander assumes command, Endurant personnel may be asked to perform duties as directed by the Incident Commander.

When the incident is under control and no imminent threats remain, the Incident Commander will demobilize his/her responders and depart. At this point, Endurant's Emergency Coordinator will reassume command and will manage all tasks associated with the remaining phases of response and/or cleanup.

3.4 Communication Systems and Procedures

The procedures for internal and external communication during an emergency are described below. Actual methods and the sequence of notifications are described in the appropriate emergency response Hotsheets included as Attachment C.

3.4.1 Internal Communication Systems

On-site communication is handled using direct verbal, cellular telephone, and activation of the fire alarm system. Two-way radios can also be used to communicate between on-site personnel and on-scene emergency responders.

3.4.2 External Communication – Emergency Reporting

Communication of an emergency event to outside responders will be made through a landline or cellular phone call to 911. The call to 911 will be made by the Emergency Coordinator, or the remote system operator under the direction of the Emergency Coordinator. The following preliminary information should be available to provide to the 911 dispatcher:

- Nature of emergency
- Time of emergency
- Location of emergency
- Medical issues of personnel involved
- Chemicals involved, if any, and
- Other information requested by dispatcher

Complete information may not yet be available at the time of the 911 call, but the aim is to provide responders with as much initial information as possible to prepare for their response (i.e., fire response, medical, etc.). Upon arrival, designated personnel will meet the responders at the Project and provide additional information regarding the event.

3.4.3 External Communication – Corporate Reporting

The Emergency Coordinator will assess the need for communication with corporate personnel and make necessary contacts. In general, corporate reporting will be required for all emergencies.

3.4.4 External Communication – Media/Public Reporting

During an emergency, where public information about the emergency is warranted, a corporate spokesperson or designee will serve as Spokesperson for the media/public. The Spokesperson is identified in the Emergency Contact list identified in Attachment B. The Spokesperson will have access to all necessary information, will provide timely and accurate information to local, state, and federal agencies and will seek reciprocal information from these agencies. The Spokesperson will make a concerted effort to coordinate statements or information provided to the media and public with all appropriate agencies.

The following protocols shall be adhered to as feasible when providing information to the media/public during an emergency:

- Information will only be provided by the designated Project spokesperson. Facility personnel not designated as the spokesperson, may not make statements to the media or public

- Information should be provided as quickly as possible during an emergency
- Information should be provided on an ongoing basis
- Information provided should be truthful and accurate and
- No information should be provided “off the record”

4.0 BESS SAFETY SYSTEMS

4.1 Battey Pack Chemistry and Design

The SolBank contains 48 Lithium Iron Phosphate (LFP) battery packs, each containing 69 LFP cells. LFP battery cells have high heat resistance relative to traditional cell chemistries such as Nickel Manganese Cobalt (NMC), and thus have a greater resistance to thermal runaway conditions.

Furthermore, in a thermal runaway state, LFP cells generate a very small amount of energy as compared to other technologies, thereby slowing the progression of fault conditions, and reducing the chances of propagation to adjacent cells.

Each battery pack contains an integrated electrolyte sink, sized to capture all electrolyte contained within the battery pack in the event of substantial damage or pack rupture. Although, chances of a significant spill event are nominal due to the physical isolation of the 69 cells within, this feature provides added assurances of environmental protection during a significant fault event.

During transportation and maintenance, the power harness in series between the battery packs needs to be disconnected. When the power harness is disconnected, the DC voltage in the battery box is only 220.8V, which greatly reduces the risk of fatal electric shock. Note that during normal operation and fully installed, the battery pack voltage can exceed 1300Vdc.

4.2 Battery Management System (BMS)

The SolBank's battery packs are wired as 8 strings of 6 packs. Each string is controlled and monitored by a dedicated Battery Management System (BMS). The BMS constantly monitors cell and pack level voltage, temperature, State of Charge (SOC), and other parameters to ensure early detection of pre fault conditions, and immediate detection of fault events. Should any parameter exceed a permissible value, the BMS will disconnect the effected string and surface an alarm to the system Energy Management System (EMS).

4.3 Access Door Travel Switch

The external BMS access door on the SolBank has integrated position sensors. When the external BMS access door is opened during system operation, the SolBank will immediately shut down and all BMS will isolate their battery strings from the main system bus. See Figure 4.3-1 for location of BMS access door.

Figure 4.3-1: The position of external BMS access door

4.4 E-Stops

Each SolBank contains two E-Stop buttons on each end of the structure. When pushed, the SolBank will immediately commence shut down, and all BMS will isolate their battery strings from the main system bus. An additional E-Stop is located at the entry gate behind a lock box accessible by emergency response personnel.

4.5 Fire Detection and Alarming

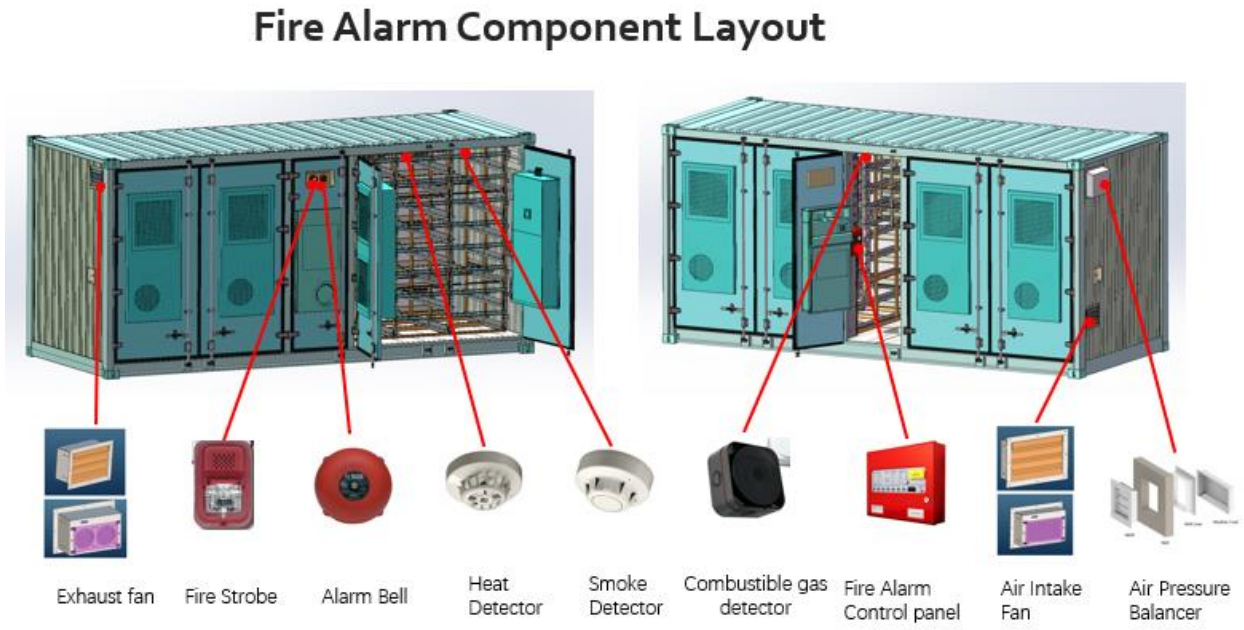

Figure 4.5-1: Fire Alarm Component Layout

As shown in Figure 4.5-1, each BESS enclosure includes both an audible fire alarm bell and visual fire strobe. If the smoke or heat sensors are triggered, both fire alarms will activate, and corresponding alarms will be sent to the BESS Energy Management System (EMS).

The enclosures are also equipped with combustible gas detection sensors (H2, CO & CH4) and two off-gassing valves. The combustible gas detector is calibrated to 25% Lower Flammability Level (a combustible mixture exists at % 100% Lower Flammability Level - LFL). If the combustible gas sensor is triggered, both alarms will activate and the two off-gassing valves will be opened for exhaust. Corresponding alarms will be sent to the BESS EMS.

Level 1 Alarm: Detection of failure by a single smoke or thermal detector will trigger Level 1 alarm, sounding the audible alarm bell on the battery enclosure and stopping battery operation. A digital alarm is passed through the EMS system to the remote operator.

Level 2 Alarm: Detection of failure of one of each alarm type will trigger the Level 2 alarm, triggering both audible alarm and visual alarm strobe on the battery and stopping battery operation.

Table 1: Detection alarm summary

Event	Fire Protection System Action	Alarm Bell Program	Fire Strobe Program
Detection from one sensor (smoke or heat)	Trigger Level 1 alarm, alarm bell activated	Constant bell alarming	Fire strobe does not alarm
Detection from both sensors	Trigger Level 2 alarm, alarm bell and fire strobe both activated	Constant bell alarming	Constant flash alarming
Detection from gas sensor	Trigger Level 2 alarm, alarm bell and fire strobe both activated	Bell alarming with 3 seconds, and 1 second interval	Constant flash alarming

5.0 BESS HAZARDS

The primary hazards associated with installation and operation of the BESS are indicated in Table 2 below and discussed in the sections below.

Table 2: BESS primary hazards

CLASSIFICATION	HAZARD	DESCRIPTION	QUANTITY	RISK
Electrical Hazards	DC Voltage	Primary voltage of storage system	1500 VDC	Electrocution
	AC Voltage	Primary voltage of aux power system	480 VAC	Electrocution
Chemical Hazards	Ethylene Glycol	Coolant used in battery liquid coolant system	84.8 gallons	See MSDS (Attachment D)
	R134a Refrigerant	Refrigerant used in HVAC system	35.3 lbs.	See MSDS (Attachment D)
	Li-ion Electrolyte	Battery electrolyte used in LFP battery cells	48 gallons	See MSDS (Attachment D)
	Lead Acid Electrolyte	Battery electrolyte used in UPS	0.4 gallons	See MSDS (Attachment D)
Fire & Explosion Hazards	Electrical Fire	Fire caused by cable fault or component failure		Fire
	Thermal Runaway	Thermal runaway from battery fault or heat		Fire, off-gassing
	Battery off-gassing	Off-gassing from thermal runaway		Explosion

5.1 Electrical Hazards

5.1.1 DC Voltage

Hazard: Exposure to 1500VDC

The SolBank's 48 battery packs are wired as 8 strings of 6 packs. Each SolBank pack has a maximum DC voltage of 248.4 VDC. When wired in a series string of 6 packs, the total voltage increases to 1324.8 VDC. Charging voltage can be as high as 1500VDC. Risk of electrocution exists.

Location: When the system is shutdown, high DC voltage is present at the terminals of each battery and BMS. When the system is started or on-line, each BMS will close the string disconnect, and energize the main DC bus of the SolBank. If the system primary disconnect is closed, the conductors between the SolBank and DC terminals of the PCS/Inverter will also be energized.

5.1.2 AC Voltage

Hazard: Exposure to 480VAC

The SolBank's auxiliary power system, which includes HVAC systems, control systems, and other
system support equipment, operates of 480VAC. Risk of electrocution exists.

Location: 480VAC aux power feed is routed into the bottom of the SolBank Distribution Management Cabinet. 480 VAC supplies HVAC loads contained in the HVAC cabinet as well as a 480VAC/220VAC step-down transformer, which in turn supplies other loads through the SolBank.

5.2 Chemical Hazards

5.2.1 Ethylene Glycol Coolant

Hazard: Exposure to hazardous chemicals

The SolBank's liquid cooling and heating system circulates an Ethylene Glycol solution from the HVAC cabinet to each battery pack in the system. The solution consists of 50% water and 50% Ethylene Glycol. Ethylene Glycol is not combustible but does pose a health risk when exposed to personnel in sufficient quantity. See the safety data sheet (SDS) contained in Attachment D for further details.

5.2.2 R134a Refrigerant

Hazard: Exposure to hazardous chemicals

The SolBank's air conditioning system circulates R134a refrigerant to the entire HVAC system. R134a can be combustible under certain circumstances and does pose a health risk when exposed to personnel in sufficient quantity. See the safety data sheet (SDS) contained in Attachment D for further details.

Location: 16kg (35.3lbs) of R134a circulates throughout the HVAC system. The compressor and other supporting equipment is located in the HVAC cabinet.

5.2.3 Lithium-Ion Electrolyte

Hazard: Exposure to hazardous chemicals

The electrolyte contained within the SolBank C15 battery packs consist of a volatile hydrocarbon-based liquid and a dissolved lithium salt such as lithium hexafluorophosphate. The electrolyte solution can be combustible under certain circumstances and does pose a health risk when exposed to personnel. See the safety data sheet (SDS) contained in Attachment D for further details.

Location: 336L (89gal) of electrolyte is contained within the SolBank's 24 battery packs (2,736 battery cells).

5.2.4 Lead Acid Electrolyte

Hazard: Exposure to hazardous chemicals

The electrolyte contained within the SolBank's UPS consist of a sulfuric acid electrolyte. The electrolyte solution does not combust easily but does pose a health risk when exposed to personnel. See the safety data sheet (SDS) contained in Attachment D for further details.

Location: The Lead Acid Electrolyte is contained within the SolBank's UPS which is in the distribution box.

5.3 Fire & Explosion Hazards

5.3.1 Electrical Fire

As a result of short circuit, failed OCPD (over-current protection device), or other electrical component failure, electrical fires are possible within the SolBank. The Solbank unit includes redundant heat and smoke detectors to alarm to the fire panel and EMS in such conditions and trigger the audible horn and visible strobe as well.

5.3.2 Thermal Runaway and Battery Fire

Due to excessive heat build-up from external sources (i.e. electrical fire), or internal cell failure, it is possible that one, or many of the SolBank's LFP cells may be pushed into a state of thermal runaway. Should this occur, the design of the LFP cell and battery pack is designed to reduce the changes of propagation of thermal runaway to adjacent cells, a process called "cascading thermal runaway."

The SolBank units underwent UL 9540A testing, a destructive test method used for evaluating the thermal runaway impacts in a BESS and gathering data to assist in assessing or developing mitigation measures for the failure event, propagation of the failure, or consequences of an event, such as an explosion or fire. The test, which does not have pass/fail criteria, was performed on the cell, module, and unit level. UL 9540A is ANSI accredited and is currently considered to be the most appropriate published methodology to provide comprehensive, consistent, and reliable third-party data for battery failure testing.

While cell-to-cell propagation occurred during the test, module-to-module propagation was not observed indicating an adequate thermal barrier between modules. The Unit level results show a resiliency of the Unit to thermal runaway propagation and fire hazard in a single failure event. The test results in summary showed the following:

- No module to module or unit to unit thermal runaway propagation
- No flying debris or explosive discharge of gases during the test

- No electrical arcs or other electrical events during the test
- No external flaming observed

The Solbank units include redundant heat, smoke and gas detectors to alarm to the fire panel and EMS in such conditions and trigger the audible horn and visible strobe as well.

5.3.3 Explosion of Battery Off Gas

When Li-ion batteries go into thermal runaway, toxic and combustible gases are released in a process called off-gassing. These gases are Hydrogen (H2), Carbon Monoxide (CO), Methane (CH4) and other hydrocarbons. During cascading thermal runaway events, when many cells are consumed, sufficient gas can build up within a confined space to create conditions sufficient for explosion.

The Solbank units include an exhaust fan which vents gases upon detection before they build to combustible levels. The combustible gas detector is calibrated to 25% Lower Flammability Level (a combustible mixture exists at % 100% Lower Flammability Level - LFL). If the combustible gas sensor is triggered, both alarms will activate and the two off-gassing valves will be opened for exhaust. Corresponding alarms will be sent to the BESS EMS.

6.0 EMERGENCY RESPONSE SPECIFICS

6.1 Emergency System Shutdown

In the event of an emergency on site, the SolBank can be shut down locally or remotely. A system shutdown will result in electrical isolation of the battery strings and cessation of battery charging or discharging.

A system shutdown will not de-energize the battery bank, nor will it guarantee that a fault or thermal runaway event has been stopped.

Do not open the SolBank until deemed safe to do so by the Emergency Coordinator.

Local: A local shutdown is via the E-Stops located either on the side of each encloser or at the lock box at the fence accessed by appropriate emergency responders. When the E-stop is pushed, the SolBank BMSs will disconnect all battery strings from the main system bus, thereby stopping all charging and discharging.

On-site personnel witnessing an emergency should not however assume automated alarms have reached the EMS or that they have been passed onto remote operations. Such personnel are advised to first call 911, and then contact remote operations directly in addition to other key stakeholders identified in the emergency contact list (Exhibit B).

Remote: A remote shutdown occurs during an alarm event as outlined in Section 4.5 or directly via the Remote Operator. Upon a Level 1 or 2 alarm any detectors alarm (heat, smoke and/or gas), the SolBank BMS will disconnect all battery strings from the main system bus, thereby stopping all charging and discharging.

6.2 Fire Alarm Response

6.2.1 Initial Indications of Fire

If any of the below is observed, personnel should immediately evacuate anyone inside the fenced Project area, contact 911, and notify all stakeholders as defined within the ERP. Do not open the SolBank access doors under any circumstance.

- Acrid burning smell
- Excessively hot access door handles or outer surfaces
- Unusual sounds indicating electrical arcing or combusting materials
- Triggered audible or visual fire alarm
- Smoke emanating from the SolBank

6.2.2 Assess Life Safety Concern

Maintenance personnel may be on site at any time and will have signed in with the host site check in. Upon notification of a fire emergency, the Emergency Coordinator should liaise with the site host contact to identify any potential contractors who may be onsite

and confirm that they have safely evacuated. The Emergency Coordinator shall notify the fire department of any such unaccounted personnel when they arrive. When the fire department arrives on site, they should also check the BESS sign in sheet with the host contact to ensure all personnel have safely evacuated and that personnel are not visible from outside the fence line.

6.2.3 Personal Protective Equipment (PPE)

Full firefighter protective gear shall be worn in any response to a fire and/or explosion event or any indication a fire may be present. This shall include proper use of Self-Contained Breathing Apparatus (SCBA).

If no fire or explosion risk is present, AR 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.

6.2.4 Initial Scene Assessment & ICS setup

An initial scene assessment shall be conducted and a clear concise assessment shall be given to incoming responders in accordance with the ICS discussion of Section 3.3. Hazards and facility safety concerns such as high voltage areas or other electrical concerns shall be announced to all responders. The scene assessment shall include the following in plain language:

- Where the incident is located
- What has happened
- What is occurring
- Any injuries or unaccounted for individuals
- What the needs/resources are

An Incident Command System (ICS) shall be established immediately and shall include designation of roles. Once the fire department arrives on site, the senior officer will take on the role of Incident Commander from the Endurant Emergency Coordinator.

At the same time as these activities are occurring the Emergency Coordinator shall immediately coordinate with the Remote System Operator to establish available data from the Battery Management System (BMS) and communicate this to the appropriate Incident Command individual.

6.2.5 Specific Fire Response

When sensors within the BESS enclosures detect conditions that indicate a fire, an audible alarm will sound, and a visual strobe will flash on the enclosure exterior. Smoke and/or flame may or may not be visible from the outside of the BESS enclosure. Fire growth can be slow, fast, or explosive in nature.

Emergency response personnel shall remain outside the fenced Project area. Personnel and resources should not be positioned parallel to the sides of the BESS enclosure. In

order to minimize exposure to any potential blast radius, these resources should be positioned on the corners of the BESS enclosure. Any attempts to approach the BESS enclosure should adhere to the same recommendations. Attempt to extinguish the fire only if imminent threat to life safety exists.

If there is no immediate threat to life safety, allow the BESS to burn in a controlled fashion until all fuel sources inside are depleted. A defensive approach should be considered utilizing water to cool and protect adjacent exposures and mitigate the spread of fire. Remove or protect adjacent vegetation to avoid providing an additional fuel source which may aid the spread of fire. Endurant Emergency Coordinator shall provide guidance on conditions inside the adjacent battery containers and whether defensive cooling is needed.

WARNING: The risk of battery re-ignition remains present for hours or even days after the smoke/flame was initially detected. Even if a lithium-ion battery fire has been extinguished there is still a risk of re-ignition.

Chemicals released during a fire or explosion will be in a gaseous form and primarily pose an inhalation hazard but should rise and disperse. A fog pattern from a handline or monitor nozzle may be an effective way to control the off-gassing event on the exterior of the battery container from migrating to unwanted areas.

A **Fire Hydrant** is located on Deerfield Road, approximately 1500 feet from the Project location. Water curtains or hose streams may be applied to adjacent exposures for cooling purposes. If any indicators are present of damage or heat to an adjacent system, the BMS data shall be closely monitored for the adjacent system and relayed to the appropriate individual within the Incident Command System.

Following partial or complete consumption of the system by fire, batteries may continue to emit low levels of flammable gases and dangerous levels of toxic gases for an extended period of time. Continuous monitoring of gas levels in and around the incident location shall be conducted and use of mechanical ventilation may be utilized to manage gas levels. Full firefighter PPE and SCBA shall be utilized until gas levels are confirmed to be at a safe level. A fire watch shall be performed for a minimum of 24 hours after any fire incident.

6.3 Spill Response

Endurant personnel will only respond to incidental releases of oil or hazardous material where the material can be absorbed, neutralized, contained or otherwise controlled at the time of the release by persons familiar with the released substance. Any incident that goes beyond an incipient or incidental stage where there is any potential safety, health or significant environmental hazard will be responded to by outside, trained, emergency responders.

A spill is not likely from the operation of the BESS. Nevertheless, any release should be reported to the Endurant Project Manager for evaluation of response.

6.4 Medical Emergency Response

6.4.1 First Aid

Basic first aid may be provided for minor injuries. A first aid kit is maintained within the host site. The kit contains medical supplies, protective equipment, and biohazard clean-up materials. First aid is provided on a "Good Samaritan" basis.

6.4.2 All Other Care

Outside medical assistance will be utilized for any medical injury requiring care beyond basic first aid. The Emergency Coordinator will call 911 to trigger outside medical response and assign personnel to meet the responders at the site.

Transportation of employees for non-life-threatening injuries or illnesses may be provided by Project personnel. For all other cases, off-site transportation for care is provided via ambulance. If ambulance transport is required, the destination medical facility should be noted by the Emergency Coordinator. The Endurant Project Manager should attempt to contact the injured employee's family if the employee is transported off-site. If injury occurs to a Contractor, the contracting company should be contacted.

Medical Response Procedures are summarized on the Medical Response Hotsheet, located in Attachment C of this plan.

6.5 Severe Weather Event Response

6.5.1 Hurricane/Tornado

Hurricanes are severe tropical storms with a well-defined circulation and maximum sustained winds of at least 74 miles per hour. Hurricane winds can reach 160 mph and extend inland for hundreds of miles. The location of the Project negates the potential threat caused by a hurricanes storm surge. However, high winds and heavy rains resulting from a hurricane could threaten Endurant. Workers can be injured by breaking glass and falling or flying objects. Electrical hazards may develop from loose wires or contact with water in the storm surge. The resulting floods can cause great damage and loss of life. In addition, hurricanes often generate tornadoes, which add to the hurricane's destructive power. The hurricane season lasts from June through November.

Before a Hurricane/Tornado:

- Remote System Operator will monitor information from the National Weather Service.
- Ensure that equipment is operable.
- Prepare for possible power outages.
- Prepare for disruption of fire protection systems.
- Assign personnel to do a walk down at the Project to secure any loose debris or equipment that could become a projectile hazard during the weather event.
- Keep the gate securely closed and locked
- Look for loose container sidings or loose cable tray covers and secure.
- Make sure there is nothing that would obstruct the free flow of water off the site.
- Ensure there is adequate portable lighting available – ensure flashlights are charged and spare batteries are available.
- Verify that computer, cell phone, camera, weather radio and other equipment batteries are charged.
- Inspect roof-mounted equipment and secure if necessary.
- Assess the need to bring personnel to the site. Arrange accommodations.

During a Hurricane/Tornado:

- Closely monitor information from the National Weather Service.
- Keep the Remote System Operator informed as warranted.
- Communicate with ISO-New England and the site host regarding the Project's status.
- Monitor for flooding of buildings and/or the Project.
- Shut off electrical power if necessary.

After a Hurricane/Tornado:

- Account for all on-site personnel.
- Evaluate potential hazards and the need for outside emergency agency assistance.
- Survey damage.

    - Broken or leaking equipment
    - Live wires
    - Flooded electrical circuits
    - Submerged electrical equipment
    - Leaking chemicals and/or flammable liquids
    - Damaged fire detection/suppression equipment and
    - Structural damage.
- Obtain the assistance of utility companies if needed. Shut-off electric services when appropriate.
- Take photographs of damage.
- Restore fire protection systems as soon as possible.
- Clean up or rope off dangerous areas such as where broken glass, unstable structures, or loose or hanging tree limbs are located.
- Begin salvage operations as soon as possible. Move debris to dumpsters as quickly as possible.

6.5.2 Winter Storm

Severe winter storms can paralyze an entire region, bringing heavy snow, ice, strong winds, extreme cold temperatures, and freezing rain. Windblown objects, downed electrical wires, fallen trees and branches, and frostbite and hypothermia are possible. Ice and snowstorms can cause slippery roads and poor visibility making driving conditions hazardous. Winter storms can prevent personnel from reaching the Project. Heavy snow and ice can also cause structural damage and power outages. The weight of ice or heavy snow can down power lines.

Before a Winter Storm:

- Monitor information from the National Weather Service.
- Prepare for possible power outage.
- Protect equipment susceptible to freezing.
- Ensure Project snow removal plan is in place.
- Ensure adequate supply of de-icing chemicals.
- Secure outdoor objects that could blow away or cause damage or injury.

During a Winter Storm:

- Remote System Operator will closely monitor information from the National Weather Service.
- Avoid spending long periods outdoors in extreme cold and avoid strenuous exercise or hard labor outdoors in extreme cold weather. The strain from the cold and hard labor may cause a heart attack. Also, try to keep dry when outdoors in cold weather.
- Communicate with ISO-New England regarding the Project's status.
- Be aware of wind chill, the combined cooling effect of wind and low temperatures, creates dangerous conditions for the human body.

After a Winter Storm:

- Account for all on-site personnel.
- Evaluate potential hazards and the need for outside emergency agency assistance.
- Survey damage. Look for
    - Structural damage and
    - Check for dangerous snow or ice build-up on buildings and equipment.
- Obtain the assistance of utility companies if needed. Stop electric services if appropriate.
- Take photographs of damages.

Severe Weather Emergency Response Procedures are summarized on the Severe Weather Emergency Response Hotsheet, located in Attachment C of this plan.

6.6 Sabotage Response

This section provides guidelines to be followed in the event of a deliberate action aimed at weakening Endurant through subversion, obstruction, disruption, and/or destruction and to ensure that disturbances or unusual occurrences, suspected or determined to be caused by sabotage, are reported to the appropriate systems, government and regulatory agencies.

6.6.1 Sabotage Categories

Sabotage events can be classified into two general categories: Physical and Cyber. Within these two categories, attacks can be characterized by one or more of the following traits – *External or Internal, Primitive or Sophisticated*. Because of the thinking and adaptive nature of perpetrators – always seeking surprise in the time, manner, and place of their attacks – it is impossible to provide complete guidance for staff to allow them to identify every possible method of sabotage. Endurant personnel are expected to be diligent in their efforts to identify sabotage events or attacks.

The following section provides general guidance to assess and identify attempted sabotage.

Sabotage Indications: Category 1 – Cyber

The following criteria may be used as a guideline for classifying an act of cyber sabotage.

- Repeated attacks from the same range of Internet protocol (IP) addresses or a sustained spike in attack activity during a period can be an indication of cyber sabotage.
- A spike in internal bandwidth usage may indicate that systems have been penetrated.
- Server and firewall logs should be monitored for suspicious activity.
- Security plan reviews which monitor Endurant's outward bound Internet activity can aid in sabotage detection.
- Recognize that some internet attacks involve the penetration of computers for the sole purpose of utilizing those computers in a coordinated attack on a third party.

Endurant personnel should also be aware that not all cyber incidents are purely electronic in nature.

- Phone calls, letters, or requests from unrecognized individuals for passwords and network information are potential incidents as well.
- Facility tours are a prime intelligence gathering method used by motivated attackers to gather information about potential Project or network vulnerabilities.
- A potential attacker may call posing as a 'vendor' asking questions about Project layouts, or what kind of hardware and software solution that a company may be using.

These potential 'social' incident attacks may not be recognized by the staff of many organizations. If this type of attack is recognized it should be reported to the proper authorities as well.

Sabotage Indications: Category 2 – Physical

Physical sabotage can be any act that affects Endurant's personnel, property, facilities, operating systems, and materials. While the results of physical sabotage may be easy to spot once an attack has been launched, the planning and preparation for a coordinated physical attack can easily be masked.

Physical sabotage can originate through unauthorized entry, or by staff members who are authorized to be on site. They can be well-planned, coordinated efforts involving multiple people, or they can occur without any pre-planning, from people intent on causing harm to a Project. Endurant personnel must maintain diligence in their approach to recognizing planning and attempts at physical sabotage.

The following criteria may be used as a guideline for classifying an act of physical sabotage. If the event was the result of a malicious physical act that caused, or had the potential to cause any of the following conditions (not all inclusive), the event should be considered an act of sabotage (including physical acts by employees, contractors, vendors and/or temporary employees):

- A breach of the physical security perimeter and trespassing
- Injury to personnel
- Damage to Project
- Damage to equipment
- Release or spill of chemical or petroleum products
- Fire
- Explosion
- Bomb threat
- Transmission outage
- Loss of generation
- Loss of load
- Theft of tools, parts or equipment required to support normal operations or
- Damage or disabling of any Project systems.

6.6.2 Sabotage Response

The first priority of any emergency is to ensure the safety of all persons on the Project site, the public and the environment. Each step of emergency response should be in keeping with these priorities. General emergency response actions should be enacted including, notification of the incident to all on-site personnel with direction as to the nature of the incident and clear direction in their immediate protective actions. The emergency coordinator must be notified as soon as possible about the incident.

6.6.3 Sabotage Reporting and Notifications

Disturbances or unusual occurrences suspected or thought to be caused by sabotage, should be immediately reported to the Project Manager who will assess appropriate response to authorities.

6.6.4 Precautions and Requirements

Acts of sabotage, or the threat of an act of sabotage, can result in fire or explosion, a hazardous substance release or a medical emergency. Sabotage Response procedures are summarized in the Sabotage Response Hotsheet, contained in Attachment C of this plan.

6.7 Bomb Threat/Threatening Call

A bomb threat is generally defined as a verbal threat to detonate an explosive or incendiary device to cause property damage or injuries, whether such a device exists. The person who receives the threat will, in most cases, be the only person who has contact with the caller. It is therefore imperative that the initial contact person extract as much specific information as possible from the caller.

There are two main reasons someone may call with a bomb threat:

- The person knows of an explosive device that is in place, and wants to minimize injuries.
- The person wants to create an environment of panic/confusion or to interrupt normal Project functions.

Unfortunately, there is often no way to tell the motivation of the caller until after a thorough inspection of the Project is conducted. This means that there will always need to be a response to the threat by Endurant personnel.

If personnel receive a bomb threat call, the following actions are taken:

- Remain calm.
- Keep the caller on the line and get as much information as possible and write it down immediately, using the Bomb Threat/Threatening Call Hotsheet, contained in Attachment C.
- Immediately after the call is terminated, contact the Project Manager

Upon notification of a bomb threat or threatening call, the Emergency Coordinator will notify 911. A site wide or area evacuation may be initiated by the Emergency Coordinator.

7.0 EMERGENCY TRAINING AND DRILLS

7.1 Initial and Annual Training

7.1.1 New Employee Training

Within the first 6 months of employment, any new Endurant employee who will be associated with the Project will receive First Responder Awareness Level training. It will cover the contents of this plan; identification of hazards on site; what to do in the event of an incident.

7.1.2 Annual Training

All Endurant employees associated with the Project are provided with First Responder – Awareness Level training and training on the details of this ERP.

Training is conducted using a variety of means, including classroom, computer-based learning, tabletop exercises and emergency drills. Topic sheets are prepared for each training event. Attendance is recorded through sign-up sheets. All training documents are maintained.

7.1.3 Training Based on Changes

Training is conducted when any of the following circumstances are met:

- An employee is promoted or transferred to a position with different preparedness and response duties. Training will be provided upon change in assignment.
- New equipment is acquired, or existing equipment is modified, and the change could significantly affect preparedness and response. Training will be provided within one week of the change.
- Regulatory changes requiring training.
- A significant change in the surrounding environment affects response.
- A significant change in local emergency response capabilities or procedures affects response activities.
- A scheduled training exercise reveals serious deficiencies that require immediate correction.
- An audit or compliance review of Endurant operations reveals serious deficiencies that require immediate correction.

7.1.4 Contractor Training

Contractors are hired based on their ability to do the contracted work, and it is the responsibility of the Contractor Agency to ensure all necessary licensure is current and training is provided to contractors. Contractors are provided orientation training by Endurant using a Project safety and environmental orientation presentation. Specific job training is done through the job hazard analysis (JHA) process and safe work review process. In this process, Endurant personnel review the job with the contractor and review the job safety and environmental hazards involved.

7.2 Periodic Drills

Emergency response drills are held on at least an annual basis to assess the effectiveness of the procedures, maintain personnel proficiency in response actions, integrate new equipment, practices, or procedures or correct any deficiencies or weaknesses in response activity.

Drills may involve response agencies, including the local Fire Department. The drills vary in nature and include specific emergency response activities such as spill response or fire. All drills are documented and reviewed to provide areas for improvement.

8.0 INCIDENT INVESTIGATION

All incidents are documented by the Emergency Coordinator in the Project incident reporting system. Based on the severity of the incident, the Emergency Coordinator or Remote System Operator may wish to do additional incident investigation. Investigations should be initiated promptly following resolution of the incident. The investigation can comprise a group appointed by the Emergency Coordinator, and likely will include the Remote System Operator. Outside personnel may be assigned to the investigation team, including off-site responders involved in the response.

The incident investigation is conducted using interviews and investigations to create a formal report, which should provide the following information:

- A brief summary of the entire incident, including time, date, weather conditions, etc.
- Description of the incident;
- Date investigation began;
- Description of all damage, including off-site damage;
- Cause and contributing factors;
- Equipment failures;
- Procedural errors;
- Improper emergency action;
- Intentional tampering;
- Deficiencies in establishing procedures;
- Photographic evidence;
- Written statements from persons who were first to scene and other witnesses;
- Copy of printouts from equipment as pertinent;
- Summary of emergency response and actions;
- List of all persons on the site;
- List of organizations responding to the emergency;
- List of all injured people and extent of their injuries;
- Contractors used and assessment of their performance;
- Written and verbal notifications made;
- Cost of response;
- Conclusions of the investigative group;
- Recommendations resulting from the investigation; and
- Critique of all response and follow-up actions, including what went well and what could have been improved.

ATTACHMENT A

SITE AND FACILITY DESCRIPTION

Figure 1 - SITE LOCUS
Figure 2 - SITE PLAN AND FACILITY LAYOUT
Figure 3 - SITE SPECIFIC LD DRAWING

ATTACHMENT B

EMERGENCY TELEPHONE CONTACT LIST

ATTACHMENT C

EMERGENCY SPECIFIC HOTSHEETS

Evacuation Hotsheet
Fire Response Hotsheet
Medical Emergency Hotsheet
Severe Weather Emergency Hotsheet
Spill Hotsheet
Sabotage Response Hotsheet
Bomb Threat/Threatening Call Hotsheet
Workplace Violence/Active Shooter Hotsheet

ATTACHMENT D

SAFETY DATA SHEETS

ATTACHMENT E [if applicable]

NERC EVENT REPORT EOP-004-4