Solarbank, Peggs Mountain BESS

Response to AHJ Comments

ERP Rev1

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TOWNSHIP OF ARMOUR

Question	Subject	FRA Response
1	• **PPE Standard Reference -** Section 6.1.6 references NFPA 1971 and not the latest version of the standard for PPE NFPA 1970. The ERP must provide a clear justification for continuing to use NFPA 1971 or commit to updating its reference and requirements to NFPA 1970 to align with current standards. *Reference: NFPA 1970*	The ERP has been updated to reference NFPA 1970 as the standard for Personal Protective Equipment (PPE). NFPA 1970 (2025) was issued on August 29, 2024, with an effective date of September 18, 2024. This standard was issued after the development of draft versions of the ERP, which is why it was not originally referenced in the ERP. NFPA 1971 is still referenced within NFPA 1970 and the requirements for labeling, design, performance, and test methods remain largely unchanged. It is also worth noting that any in-service PPE that was manufactured prior to September 2024 is likely not certified to NFPA 1970.
2	• **Community Notification -** The ERP (Sections 7 and 9) lacks integration of the Township of Armour's formal notification procedures or clearly defined evacuation thresholds. Include detailed protocols aligned with the township's existing emergency management framework. The ERP needs detailed protocols for public notifications that align seamlessly with municipal emergency management practices to enhance public safety during an incident. *Reference: CodeRED - https://www.armourtownship.ca/codered*	Community notifications are generally the responsibility of the responding agency, based on the risks identified upon arrival at the scene. There are no issues including those types of notification procedures within the ERP if they are provided. However, FRA would need clarification from the Township of Armour on their formal notification procedures and emergency management network, as the provided link to CodeRED does not offer substantial documentation.

		The notification matrix in Section 7.1 was updated to reflect that it is the responsibility of 911 to provide notification to the town mass notification system for distribution of orders to the public. Language was also added within Section 9.3 on Community Air Monitoring to clarify when evacuation or shelter-in-place notifications might need to be ordered. It is difficult to provide clearly defined evacuation thresholds. Any shelter-in-place or evacuation order would be based on the conditions on-scene at the time of the incident and the judgement of the first response agency in charge.
3	**Hazard Zones -** Sections 8 and 9 describe the 100-foot exclusion zone around the battery enclosure and the provision of a 10-foot standoff distance for arc flash precautions. However, protocols for establishing Hot, Warm, and Cold Zones for the hazards defined in the ERP are not described therein. Clarify the procedures for defining and managing these distinct hazards zones around identified hazards, beyond just the exclusion zone, need to be clearly outlined. *Reference: NFPA 1500*	Section 9 of the ERP defines hazard and response tactics for each mode of failure, including appropriate standoff distances. The 100-foot exclusion zone serves as the primary safety perimeter for responders. The exclusion (hot) zone figure in Section 9.3 has been revised to show general hazard zones. The ERP has also been updated to include "(hot)" after the term "exclusion" to clarify the meaning of exclusion zone.
4	**Incident Command Structure -** Section 8.3 references a sample Incident Command Structure (ICS), but no diagram or organizational structure is provided. Clarify whether the Unified Command structure provided in section 8.2 is to be adopted for incident command or provide an alternative incident command structure. The ERP should provide a more granular breakdown of the SME's responsibilities and specific tasks tailored to different types of incidents, clarifying their integration and decision-making authority within the unified command structure. *Reference: NFPA 1561*	Section 8.2 contains a sample unified command structure, and Section 8.3 contains a sample incident command structure. However, the unified command and ICS structure is largely based around who responds to an incident at a given time and a one-size fits all approach is not appropriate. Section 8.2 and 8.3 were reformatted to provide clarity. Updated Section 8.1 to clarify SME responsibilities.

5	**Incident Command Authority -** Clarify explicitly throughout the ERP document that the Fire Department retains full command authority and will communicate directly with BESS staff through a designated liaison from the Fire Department.	In Ontario, Canada, the fire department Incident Commander (IC) is given authority over an emergency incident scene by law through the Fire Protection and Prevention Act (FPPA). It should not need to be stated within the ERP. However, clarification has been added within Section 8.3 and Section 9.3 that the fire department retains full command authority, although it is highly recommended that operational decisions are coordinated with the BESS SME and site personnel familiar with the site and equipment. From a safety and operational standpoint, FRA believes that the BESS SME and the IC should establish a direct coordination link, instead of through a liaison. This ensures that the fire service has immediate access to critical, real-time information to manage the incident effectively, which allows for a safer environment for firefighters to operate within.
6	**Post-Incident Decontamination Procedures:** Section 10 omits procedures for firefighter decontamination and handling of contaminated PPE. Provide decontamination protocols for firefighters leaving the hot/warm zones. Also provide post incident decontamination requirements for contaminated PPE. *Reference: NFPA 1072*	This ERP was developed to provide guidance for pre-incident planning and preparedness. Post-incident operations, including firefighter decontamination and the handling of contaminated PPE, fall under the authority of the IC and standard operating procedures (SOPs) of the fire department. There are not expected to be any hazards present after a BESS fire incident than what would be present at any other type of fire incident. Added language within Section 10.1 detailing that SOPs should be followed for post-incident decontamination of personnel and PPE.
7	**External Resource Coordination** - Although the ERP references local fire services, it lacks protocols for engagement with mutual aid departments or hazmat contractors. Define clearly in the ERP how mutual aid departments and hazardous materials contractors will be engaged, including roles and responsibilities of each agency. *Reference: Province of Ontario Mutual Aid Plan/NFPA 1720*	This emergency response plan is not designed to delineate mutual aid capabilities. It is expected that the local fire department understands and manages its own mutual aid agreements. The ERP provides tactics that can be implemented by the IC, who will coordinate the response based on the severity of the specific incident.

		The engagement of hazardous materials contractors is beyond the scope of this document, as that would be a step for post-incident recovery that is more appropriate for a decommissioning plan rather than an emergency response plan. In our experience, cleanup after an incident is typically the responsibility of the facility owner.
8	**Training Program Detail** - Section 11 lacks details on training curriculum, delivery methods, audience segmentation, instructor qualifications, and performance evaluation. Specifically include details of expected fire department support roles, such as ventilation operations. Where there is an expectation that the Fire Department may be required to support ventilation operations to reduce the possibility of explosive atmosphere development, this needs to be detailed in the training document. Provide a detailed training program document. *Reference: NFPA 1001, NFPA 1072*	The list of topics within Section 11 is meant to provide a brief overview of the training that should be provided to first responders. The section has been updated to include the following information: • **Delivery Method:** Classroom instruction • **Audience Segmentation:** Fire Service Personnel • **Instructor Qualification:** Level II ProBoard certification **Performance Evaluations:** the reference to NFPA 1001/1072 is not applicable to the training. Performance evaluation format is at the discretion of the instructor. **Ventilation Operations:** There is no expectation that the fire department will need to support ventilation efforts. There is no mention of the fire department performing ventilation operations within the ERP. The site's safety systems include built-in explosion controls on each battery cabinet, which eliminates the need for manual ventilation. Specific roles will not be defined during training, as it is the obligation of the IC on scene to assign roles and responsibilities based on training guidance and personnel on scene.

9	**Suppression Agents** - Although CO_2, dry chemical, and Purple-K agents are mentioned, their deployment procedures, volumes, and equipment types are not described. Additionally, the ERP lacks a visual map identifying extinguisher types and locations. Clearly describe deployment procedures, agent quantities, and equipment types for CO_2, dry chemical, Purple-K, or other agents. Include a visual site map indicating extinguisher locations and ratings. *Reference: NFPA 10, Best Practice, NFPA 855*	The ERP provides conditions under which suppression may be appropriate, along with required standoff distances and recommendations for types of agents with a Class C rating. • Deployment procedure: Firefighters are trained in the selection and use of portable fire extinguishers. NFPA 1001, Standard for Fire Fighter Professional Qualifications, requires both initial and ongoing training on these topics. • Equipment Type and Volume: The plan outlines the use of agents like CO_2, dry chemical, or Purple-K. Extinguisher selection (type and volume) is dictated by the AHJ, and guidance is provided within the Ontario Fire Code and NFPA 10. • Location: The fire extinguishers referenced within the ERP are referred to generally, as they could come from the site or from fire department apparatus. Fire extinguishers for the site are expected to be stored in the control room and are not kept outside to maintain extinguisher integrity. A map should not be necessary; however, signs will be posted to indicate their location. Furthermore, site fire extinguishers are intended for use by site personnel. The fire service typically brings their own fire extinguishers, not relying on site extinguishers due to unknowns surrounding the efficacy of inspection, testing, or maintenance of on-site extinguishers not under direct control of the fire department.
10	**Fire Suppression System Details** - The ERP describes the alarm annunciation (Section 5.3) but lacks detailed information on the activation procedures, manual override capabilities, maintenance schedules, and inspection requirements for any integrated fire suppression systems. Comprehensive procedures for the operation, override, and ongoing	The Peggs Mountain BESS is not required to nor is it recommended to have an integrated fire suppression system on site. Section 5.2 of the ERP provides a detailed illustration of the available alarms and the responses they trigger. This document is a response plan for fire department use and is not intended to be a facility operations plan.

	maintenance/inspection of the fire suppression systems is to be included in the ERP.	
11	**Water Supply and Fire Flow Calculations** – The ERP states that water will be supplied by fire department tankers (Section 2.1) but critically omits fire flow calculations, detailed water delivery strategies, or specifics on available drafting sites/hydrants. This section requires significant details, including precise fire flow calculations and comprehensive water delivery strategies, identifying all drafting/hydrant locations and their capacities.	Section 9 (pages 36/37) of the ERP provides direction on the application of water streams for exposure protection. Draft locations are not predetermined in the plan because they are the responsibility of the fire services to identify, as they can change with seasons and access issues. Drafting locations and capacities are expected to be known to the fire department, as they likely use them for any incident where a positive water supply is not available. Revised Section 9.3 to include that it is recommended to utilize a single handline flowing up to 250 gpm intermittently to provide adequate exposure cooling for the facility, and that a second handline may be needed to protect additional exposures in extreme situations. This is based on industry best practices.
12	**Thermal Imaging Camera (TIC) Use** - The ERP notes that thermal imaging is required during a response to a fully involved battery container, but it does not define who supplies the TIC, its specifications, or who performs the assessment. Clarify responsibility for providing the TIC, detail its required specifications, and identify who will perform thermal assessments during incidents. *Reference: NFPA 1408*	It is assumed that the Burk's Falls Fire Department, along with any mutual aid departments, have or have access to thermal imaging cameras. If they do not have access to a TIC, one should be procured. Any thermal imaging device carried by the fire department will be sufficient for the event conditions, although tactics may change based on the capabilities of the imager.
13	**Evacuation Routes and Safety Zones** - The ERP lacks clearly defined evacuation routes, an evacuation radius, and designated hold and secure zones. Clearly define evacuation routes, the evacuation radius, and designated hold-and-secure zones. Provide detailed maps and descriptions.	Evacuation routes are determined by the local emergency management staff. Conditions at the time of the incident, such as fire behavior, wind direction, and air monitoring results, will determine whether a shelter-in-place or an evacuation is necessary. It is not possible to predetermine every potential scenario within an emergency response plan, which is intended to serve as a baseline for guidance.
14	**Comprehensive Evacuation Plan** - Develop a thorough evacuation plan that addresses variables including wind direction, time of day,	See the response to Question 13. A comprehensive evacuation plan is the responsibility of local emergency management,

	seasonal variations, and specific types of incidents to ensure effective emergency management and public safety.	and its specific details cannot be pre-determined in this document.
15	**Emergency Lighting and Backup Power** - The ERP does not address provisions for emergency lighting or backup power for critical systems in the event of a power outage during an incident. Details on emergency lighting systems and backup power provisions for all critical systems within the facility are necessary.	This facility is an unstaffed outdoor facility, so the absence of lighting does not pose a concern for on-site personnel. Responders would use flashlights, and fire service apparatus are equipped with robust lighting systems. Auxiliary power systems shut down when there is a loss of light and power, generating an alarm. There are backup power systems for the emergency systems (Deflagration prevention and fire alarm systems) to allow them to remain in operation in the event of power loss. Added this information to Section 5,1 for clarification.
16	**Emergency Shutdown Procedures** - The ERP discusses autonomous equipment isolation by the EMS (Section 9.2) and mentions Lock Out/Tag Out (Section 10.3), but it lacks detailed, step-by step emergency shutdown procedures for various critical systems (e.g., electrical, HVAC, battery management system) that might require manual intervention or specific coordinated actions by emergency personnel or BESS staff. Clear, sequential shutdown procedures for all critical systems are required.	Specific shutdown procedures are intentionally omitted from the plan to discourage fire service members from operating any equipment, as it poses a safety risk. Any manual system isolation required beyond the autonomous battery management system will be performed by site personnel familiar with the equipment and procedures, under the direction of the BESS SME. Firefighter safety is of paramount importance during incident response. Similar to any utility facility incident, the utility company performs that operation due to their familiarity with the equipment.
17	**Emergency Contacts -** Update the ERP to include the Township of Armour's Community Emergency Management Coordinator, Amy Tilley (705-382-3332), in the Emergency Contact List.	The ERP has been updated to include this emergency contact information.
18	**Local Alarm Response -** Section 5.3 (Alarm Enunciation) does not adequately address procedures for responding to local alarm activations given that the monitoring site is located four hours away. Provide clear and actionable guidance on immediate response steps when local alarms activate.	Section 9.3 of the ERP provides a framework for a "scene-size up," which is an eight-step evaluation process for equipment in alarm mode or that has failed. The plan's intent is that no one should enter the facility for any incident, including a local alarm, until clear communication has been established with the Remote Operations Center (ROC).
19	**SolarBank Response Protocol –**	SolarBank representatives are anticipated to respond in less than two hours.

	1. Clarify the protocol and provide specific anticipated response times for local SolarBank representatives during a significant emergency event. 2. Clarify in Section 9.3 the expected arrival time of BESS Subject Matter Experts (SMEs) and indicate whether preliminary incident assessment actions should begin while SMEs are enroute to the facility. 3. Provide more detailed and concrete timelines for the arrival of other BESS staff and trained electricians during emergency conditions, as generalized terms are insufficient for planning and operational effectiveness.	Initial scene size-up, including air monitoring, can and should be performed by the FD from the exterior of the facility before the BESS SME arrives. Revised Section 9.3 to clarify the timing of the size-up. Concrete timelines for the arrival of other BESS staff and electricians cannot be provided, as their response is dependent on factors like traffic and weather. The focus remains on responder safety and preventing the incident's escalation. The same is true of similar personnel during any type of incident (i.e. electrical utility personnel during a house fire or wires down incident, or gas company personnel during a gas emergency).
20	**Alarm Notification Sequence -** Clarify alarm notification sequences in Section 9. The ERP should explicitly indicate that the primary purpose of monitoring the company's notification is to provide timely alerts to the Fire Department. Notifications to other parties would be initiated post Fire Department notification.	Section 7 of the ERP illustrates that an alarm received from the site notifies a 24/7 approved central station. The first notification call is made to the fire services. Notifications to other parties are initiated after the fire department has been notified.
21	**Mandatory Air Monitoring** - Mandate and detail community air monitoring procedures during all active fire scenarios including stranded energy, cell venting, thermal runaway, large-scale fires, and explosions. The ERP needs to be revised to reflect that community air monitoring is a mandatory procedure during all specified active fire scenarios, not merely a consideration.	Updated Section 9.3 to recommend that air monitoring be performed at all incidents to rule out the presence of any hazardous condition. Once hazardous conditions are ruled out, air monitoring can be discontinued by the IC.
22	**Roles and Notification Clarity** - The ERP requires clear delineation of roles and responsibilities, specifying levels of notification and activation procedures (e.g., Full Alert vs. Stand-by) for distinct scenarios, ensuring accountability and clarity of actions during emergencies.	The plan is not intended to include command and control specifics. The IC's assessment of the event will determine the declaration for the incident. The magnitude of the incident, such as a 2nd or 3rd alarm assignment, will be based on the conditions.
23	**Comprehensive Scenario Coverage** - The ERP lists four response scenarios (Section 9.4). While a "Transformer Fire" is depicted in a figure, it is not detailed as an explicit response scenario with associated tactics within the text of Section 9.4, nor are wildland fires impinging on the facility included. The ERP must expand its scenario	Transformer Fire: The response to a transformer fire is included under the PCS Equipment Failure section (Section 9.4.4). Wildfire Impact: The response to an external event, like a wildfire, is typically an administrative decision. Since the site cannot

	coverage to include all plausible emergencies, specifically detailing hazards and tactical responses for events such as transformer fires and wildland fires threatening the facility. Clearly detail associated hazards and tactical responses for informed decision-making by emergency responders.	be relocated or protected using fire apparatus, the realistic strategy is to discharge and isolate the system from the grid. This does not require fire service support and is therefore an internal policy rather than part of the emergency response plan. A new section 9.4.5 was added to include high-level guidelines for response to a wildfire that originated outside the facility. Existing SOPs for wildfire response should take precedent.
24	Lighting Protection – The ERP does not address the potential impacts of a lightning strike on the facility, nor does it detail preventative measures or expected mitigation responses. Information on lightning protection, including potential impacts, preventative strategies, and mitigation responses, should be added.	The ERP details response to incidents regardless of their origin. If an incident occurs in a cabinet as a result of a lightning strike, the ERP provides the proper response posture. Please note, this facility is grounded and provided with lightning protection.
25	**Post-Incident Procedures** - Clarify specific post incident procedures including billing responsibilities to SolarBank for emergency services rendered and related administrative processes.	Post-incident procedures are more appropriate for a decommissioning or post-incident action plan. If the fire department is able to bill for services, they should follow their existing billing policies and coordinate with the site response. Billing is not typically seen as part of the emergency response process and will typically be conducted after incident mitigation.