



**Worthington Fire-Rescue Department**  
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To: Bart Niswonger, Chair & the Worthington Planning Board

12 May 2026

**Worthington Fire-Rescue Department –**  
**Updates for LSGMSVI at 190 Ridge Road, Worthington, MA**

In addition to the initial submittal of 26Feb2026, the Worthington Fire-Rescue Department (WFRD) respectfully provides the following input. This is based on two draft documents that Blue Wave Corp. (BWC) and Fire Risk Alliance (FRA) provided to the Fire Chief on 14April, 2026 and subsequent discussions held on 8 May 2026 with representatives of BWC and FRA, and further Fire Chief review. These draft documents are the Draft Emergency Response Plan (ERP) and draft Hazard Mitigation Analysis (HMA) provided for WFRD review.

This update summarizes/updates WFRD comments and clarifications to either initial WFRD inputs or resulting from review of the Draft ERP & Draft HMA. WFRD would appreciate Town Consultant (Pare, Inc., et.al.) review & comment/input on these draft documents and WFRD comments.

**1. Comments/Clarifications for draft HMA**

1. HMA §1 provides an overview and executive summary of the HMA, including codes and reference materials. §2 provides detailed description of (2) SolBank 3.0 (“SB3”) cabinets manufactured by e-STORAGE of Canadian Solar. HMA §3 provides details of SB3 testing per UL 9540A at the cell, module, rack and cabinet level, including various monitoring and protective control features. HMA §4 reviews proposed BESS site layout. HMA §5 & §6 provide site layout & BESS plans review per NFPA 855 and any gaps & recommendations. §7 is the detailed HMA for the BESS and outlines acceptance criteria for Fire Code Official (FCO) or Authority Having Jurisdiction (AHJ) approval.
2. HMA draft indicates that BESS will most likely be Lithium Iron Phosphate (LFP) chemistry & related technology, which is the apparent current industry standard, but still subject to changing market conditions. HMA draft indicated that on-site fire protection water supply is not required for LFP BESS per NFPA 855 §4.13.

- a. Besides the BESS, WFRD has concerns about water availability at the site for BESS-involved exposure protection, other electrical equipment or Solar Array / tracking mechanism issues. This needs to be further discussed.
3. Need to verify detailed design & construction plans for road and site access & clearances for driveways, equipment pads, solar array & perimeter pathway (if any), and access to on-site residence for WFRD and mutual aid Fire, Police, EMS emergency vehicles, or other potential responding agencies (e.g., MEMA, DEP, BFF DCR District 10, etc.). This includes any security fencing around the BESS / electrical equipment pads, the defined ~20' double swinging access gate, etc. Need to ensure adequate access to the site driveway, and to equipment pads, BESS, solar arrays, residence etc. during typical & worst-case winters, snow removal & accumulation, wind drifts; periods of heavy rain / water run-off, mud etc.
4. As part of the design phase, or prior to the Construction Phase, WFRD requests that BWC / Fire Risk Alliance consultant provides (via paid subscription, as necessary) electronic, searchable versions of each of the NFPA, MA CMR, UL or other documents defined in these docs. This list may be amended as needed in the design & construction/installation or other phases of this project.
5. HMA §2 provides detailed description of (2) SolBank 3.0 ("SB3") cabinets manufactured by e-STORAGE of Canadian Solar. HMA §3 provides details of SB3 testing per UL 9540A at the cell, module, rack and cabinet level, including various monitoring and protective control features.
  - a. BESS unit has environmental ratings including normal equipment operating temperature range, etc. WFRD requests an assessment of seasonal environmental conditions at this elevated site (e.g., predominant wind speeds/directions, peak/avg snowfall accumulations, peak/avg rainfall, etc.). This has impacts on any potential firefighting or suppression activities, including impacts to nearby BESS exposures (power conversion equipment, AC or DC switchgear, array & tracking mechanisms etc.) Also want an assessment of worst-case environmental conditions as compared to the environmental control system (HVAC) capabilities within the BESS unit.
6. The HMA addresses several failure modes associated with the BESS units themselves.
  - a. WFRD requests similar detailed Failure Mode assessment of all other electrical or electromechanical equipment at this installation (Solar Array panels, mounts, tracking mechanism/system; power conversion equipment; switch gear, etc.)
7. HMA §2 defines BESS Thermal Management System (TMS), Battery Management System (BMS), Fire & Gas detection systems, Electrical Fault Protection, Fire Alarm Control Panel (FACP), Energy Management System (EMS) etc.
  - a. WFRD requests additional info (and perhaps a matrix that captures) at what point are any alerts or alarms generated, automated actions taken, and local and remote/off-site alerts/alarm provided to external monitoring company and eventually WFRD 9-1-1 Dispatch center? What is the communications method. How can these be periodically tested & exercised?
  - b. As this site is at decent elevation and subject to seasonable lightning storms, request more details, including any required Lightning Protection Systems (LPS) for the entire installation and equipment. Related, what are the details of the BESS cabinet, internal electronic/electrical

equipment, and external equipment pad electrical equipment for grounding to Earth Ground?  
What are the arrangements/provisions for a ground grid on site?

- c. Per HMA, SB3 can be provided with optional internal suppression systems that will not be implemented for Worthington installation. This needs further discussion.
  - d. The Explosion Control System includes combustible gas concentration reduction (CCR) system with flammable gas detectors, air intake and exhaust louvers and blower fan to circulate air. Questions on implementation and protective features for external environmental conditions (snow accumulation, etc.)
8. HMA §3 does a good job providing details of SB3 testing per UL 9540A at the cell, module, rack and cabinet level, including various monitoring and protective control features, which includes many required by NFPA 855 and related docs.
  9. HMA §4 defines the Ridge Road BESS site, including remote monitoring & emergency notifications, periodic maintenance, security features, and the Fire Alarm & Notification System. WFRD requests additional information and discussion on these topics.
    - a. Fire Alarm & Notification System drawings and details are not yet provided, to be developed in design phase. WFRD requests the schedule as to when town entities & WFRD can review these details in enough time to effect any required changes or recommendations. Emergency Stop (E-Stop) features and coordination with the site and Utility (Eversource) also need discussion.
  10. HMA §5 covers Site Design Code Analysis – WFRD has comments for further discussion.
  11. HMA §6 covers various BESS Plans & Training that should be developed during construction, etc., including Emergency Operations Plan (EOP), Emergency Response Plan (ERP, draft provided) and related training. WFRD has comments requesting schedule for delivery and review of these plans (WFRD has reviewed draft ERP, provided comments).
  12. HMA §7 covers this draft Hazard Mitigation Analysis (HMA). WFRD has comments, including that the HMA should be expanded beyond the BESS, to include any main failure modes of the array tracking system/mechanisms (batteries/technology, motor drives, controllers, linkages etc.); power conversion & distribution equipment (transformers, inverters, AC & DC switchgear, utility POI), and all the associated monitoring alarm systems (local and remote).
    - a. WFRD requests BWC/FRA to provide info & procure AHJ-reviewed/approved combustible gas detectors, toxic gas detectors, or other as needed, including site-specific training, to ensure safe working environment when approaching or working around an incident for the BESS or other installation equipment.

## **2. Comments/Clarifications for draft ERP**

1. ERP §1 defines a phone # (TBD) for a Remote Operations Center (ROC) – when will this phone # be defined? WFRD comments provide info for local 9-1-1 Emergency Dispatch center, other WFRD related state agency emergency lines, and local hospital info.
2. ERP §3 defines several Mitigations: - WFRD has comments for further discussion.

- a. 3.2.2 Fire Alarm & Detection System - When can we expect details regarding Alarm System connection to remote/off-site monitoring system/company & local 911 Dispatch Center for WFRD?
  - b. 3.2.3 Fire Protection Water Supply – beyond just the BESS, WFRD wants to discuss suitable water source onsite for the entire installation (e.g., solar array & tracking system; BESS & nearby exposures; power conversion equipment).
  - c. 3.5 Emergency Stop functions – WFRD wants more discussion on physical & remote E-Stop functions.
3. ERP §4 defines several Preparedness actions for Chemical and other Hazards - WFRD has comments for further discussion.
    - a. WFRD requests BWC to provide info & procure AHJ-reviewed/approved suitable multi-gas meters (that cover H<sub>2</sub>, CO, or other possible explosive/flammable or toxic byproducts), as well as provide periodic site-specific training.
    - b. WFRD requests BWC/FRA to provide info & procure AHJ-reviewed/approved decontamination equipment/supplies that may be needed for chemicals, toxins or other incident byproducts that may occur at this site. WFRD requests BWC fund and provide AHJ-approved decontamination equipment/supplies, as well as provide periodic, site-specific training.
    - c. WFRD requests consideration of installation (size, location TBD with WFRD, BWC, FRA, Town consultants) of an additional Structure for containment of FF suppression agents (water, foam etc.) and related incident “run-off” below & around BESS and electrical equipment pads. Essentially a waterproof “bathtub enclosure” under all key electrical elements at risk of fire & related suppression/exposure operations. Goal to contain any “run-off” (i.e., fire byproducts / toxins / contaminants) from entering the ground water/aquifers, nearby well systems, or other protected water supplies.
    - d. ERP §4.6 & 5.1 state BESS SME, equipment owner, site operator, and Remote Operations Center (ROC) have critical roles guiding FD & other responders for BESS/site emergencies. WFRD requests detailed 24/7 contact info (names, phone #, emails, etc.) for each of these interfaces, primary & backup.
  4. ERP §5 defines several Response actions - WFRD has comments for further discussion.
    - a. §5.1.7 defines exposure assessment using thermal imager cameras (TICs) at a stand-off range of > ~ 100feet. WFRD requests info on TICs that can reliably detect temperatures at that range for incident-involved equipment or exposures. WFRD may request BWC procure AHJ-approved suitable TIC for this site. Other comments address air quality monitoring.
    - b. §5.3 & 5.4 define electrical equipment failures. WFRD requests discussion on BWC providing AHJ-approved Class B & C extinguishers stored on site & accessible for WFRD.
  5. ERP §6 defines several Recovery plans & actions & states FD involvement is at discretion of the BESS SME, installation owner/operator. WFRD has comments for further discussion.
    - a. If the operators / BWC are off-site/remote, how long will it take to get to Worthington to coordinate recovery and overhaul efforts? If this is done by phone, WFRD requests detailed 24/7 contact info (names, phone #, emails, etc.) for each of these interfaces, primary & backup.

Will they be contacting approved recovery and clean-up crews, coordinating as needed with MA Department of Environmental Protection (MA DEP), others as may be required, etc.?

- b. WFRD needs to coordinate inputs to Town of Worthington ERP, with several Town entities & consultants to address proposed large-scale Solar/Bess installations.

I'm sure there will be questions or additional discussion, please feel free to contact me.

Respectfully submitted to the Worthington Planning Board,



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