ATTACHMENT 6 (Operations & Management Plan)



PRELIMINARY OPERATIONS AND MAINTENANCE PLAN

1 GENERAL PROTOCOL AND SAFETY

1.1 Contact Information

The primary points of contact for operations & maintenance related issues are as follows:

Owner

Fairy Lake, LLC
Joe McGee
Asset Manager
(617) 681-4598
assetmgmtteam@bluewave.energy

<u>eStorage</u>

XXXXXX (To be finalized prior to construction)
(XXX) XXX-XXXX (To be finalized prior to construction)
XXXX@estorage.com (To be finalized prior to construction)

1.2 Safety Guidelines & Equipment

In the event of an emergency, immediately call 911 in order to alert local first responders. Emergency signage will be posted on-site for both the Local Fire Department and the contact of the Owner/Operator.

Owner/Operator will dispatch designated operational staff within 2 hours in the event of an emergency, and approximately 12 hours in the event of a non-emergency. In the event of an emergency, the Emergency Response Plan (ERP) on file with the Municipality and Local Fire Departments should be referenced and appropriate procedures followed.

The Battery Energy Storage System (BESS) contains a number of high voltage AC and DC components and equipment. Only certified and eStorage approved technicians are authorized to conduct maintenance work on the system. Before performing work on the system, necessary Lockout-Tagout (LOTO) procedures should be followed to deenergize the system and fully disconnect the system from AC power. Proper procedures for de-energization should be referenced in the comprehensive Maintenance Manual provided by the system manufacturer prior to performing any maintenance tasks.



Equipment

All technicians and personnel performing work on the system are required to wear personal protective equipment (PPE) including but not limited to:

- Long pants and shirt (FR rated)
- Insulated gloves (See Arc Flash Study for required Protective Category)
- High visibility safety vest (FR Rate)
- Hardhat
- Eye protection
- Safety toe boots
- Arc Flash Personal Protective Equipment as needed or required by manufacturer

The following equipment and hand tools are required when performing work on the system, including but not limited to:

- 1,000V Multimeter
- 1,5000 Vdc Multimeter
- Proving Unit
- Test Leads
- Data Cable Test Unit
- Infrared Camera
- Electrostatic Discharge (ESD) Ground Wristband
- Insulated wrenches, ratches, and screwdrivers and other tools meeting IEC 60900

Additional equipment and safety procedures may be required and implemented during the operation of the system. All equipment must have valid calibration certifications if applicable.



2 OPERATION & MAINTENANCE ANNUAL SCHEDULE

PREVENTATIVE MAINTENANCE ANNUAL SCHEDULE				
Component Category	Service Descriptions	Frequency		
Battery	Set battery maintenance (system check, cell balancing)	Annual		
	Battery cable, appearance, grounding, dust removal	Annual		
	Inspect battery management system alarms	Annual		
	Visual inspection of all electrical terminations using thermal imager	Semi-Annual		
DMC/Junction Box/Auxiliary System/Miscellaneous	Auxiliary equipment maintenance and inspection	Annual		
	Enclosure dust removal	Annual		
	Inspect cable entry, grounding, sealing, dust removal	Annual		
	Critical sensor calibration check	Annual		
	Maintenance report	Annual		
Fire Safety System	Fire alarm detection system inspection	Annual		
	Fire alarm and detection system maintenance	Annual		
	Fire suppression System Inspection	Annual		
Thermal Management System	Thermal management system inspection	Semi-Annual		
	Thermal management system maintenance	Semi-Annual		
	Clean filters by rinsing with water	Semi-Annual		
	Electric Heater- Dust accumulation on the coil, signs of overheating on the heater frame, traces of water or rust on the electric heater control box.	Semi-Annual		
	Coolant tester Visual inspection	Semi-Annual		
General	System configuration check	Annual		

CORRECTIVE MAINTENANCE SCHEDULE



Component Category	Service Descriptions	Frequency
Reporting and Diagnostics	Inspection, Maintenance reports and recommendations	Monthly
	Technical support and fault diagnosis	Required
	Data server connectivity check	Monthly
	Inspect battery running status, provide operating recommendations and maintain battery	Monthly
Three (3) Corrective Maintenance Troubleshooting Dispatches (total of 24 hrs.)	Baseline assumptions of 3 corrective maintenance visits per year	Triannual (as applicable)

ADDITIONAL MAINTENANCE SCHEDULE			
Component Category	Service Descriptions	Frequency	
24/7 Monitoring	System is remote monitored 24/7 at the cell and enclosure level for voltage, temperature, and atmospheric conditions.	N/A	
Dispatch Commitment	In emergency situation, first responders will dispatch to site once farm alarm signal received, owner dispatch to follow within 2 hrs.	N/A	
Vegetation Management	See Exhibit B Section 1.3.3, below		
Stormwater and Drainage Structure Maintenance	See Exhibit C below		

Any Additional maintenance required by the Operational Spill Prevention, Controls,
 & Countermeasures (SPCC) plan that will be drafted by Engineer before COD



3 PREVENTATIVE MAINTENANCE AND SYSTEM SERVICES

3.1 Lifetime System Services

PREVENTIVE MAINTENANCE SITE VISITS

One time, annually, additional at request and expense of Project Owner and as applicable for:

- System testing (voltage/amperage)
- System visual inspection and necessary corrections, excluding cost of replacement components:
- Inspect for stolen, broken or damaged equipment, record damage and location.
 Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect wiring for loose connections and wire condition. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect string controllers for damage and general condition. Inspect AC and DC fuses
 for replacement if needed. Operator to resolve issues as needed under the terms of this
 O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be
 incurred by the Project Owner, Operator will notify the Project Owner, present proposal
 and wait for authorization on a course of action from the Project Owner.
- Inspect HVAC unit components for rust, damage, and general condition. Check condensate drain lines and refrigerant levels as required. Inspect exhaust outlets and bottom of unit for pooling, inspect and replace all filters as needed. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Verify proper system grounding is in place from enclosures to the inverter. Operator to
 resolve issues as needed under the terms of this O&M contract, the EPC Contract or
 Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator
 will notify the Project Owner, present proposal and wait for authorization on a course of
 action from the Project Owner.
- Check conduits and raceways for proper anchorage to structures. Operator to resolve
 issues as needed under the terms of this O&M contract, the EPC Contract or
 Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator
 will notify the Project Owner, present proposal and wait for authorization on a course of
 action from the Project Owner.



- Inspect all enclosure metallic parts for corrosion. Inspect ESS labels and insure they match subpanel interior break. Verify that all enclosure doors, hinges and seals are in proper working order. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect all wiring connection for signs of poor contact at terminals (burning, discoloration, etc.). Verify all conductor connections and network cables are tight and solidly connected. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Visually inspect all interior components of the ESS enclosures for signs of damage, discoloration, water ingress, or deterioration. Inspect all batteries and battery management systems for signs of damage, discoloration, water ingress, or deterioration. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect disconnection for proper operation. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Survey entire jobsite for debris or obstructions. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect fasteners for proper torque and corrosion. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notifythe Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect inverter pad for cracking or settling. Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Inspect electrical hardware for proper warning and rating labeling. Operator to resolve



issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization a course of action from the Project Owner.

- Review as built documentation as needed and update as built documentation as changes are required.
- Inspect enclosure footings, anchor bolts, and alignment to identify settling foundation
 or loose attachments. Operator to resolve issues as needed under the terms of this
 O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be
 incurred by the Project Owner, Operator will notify the Project Owner, present proposal
 and wait for authorization on a course of action from the Project Owner.
- Check proper operation and reporting of monitoring hardware. Operator to resolve
 issues as needed under the terms of this O&M contract, the EPC Contract or
 Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator
 will notify the Project Owner, present proposal and wait for authorization on a course of
 action from the Project Owner.
- Inspect sealed electrical components for condensation buildup. Operator to resolve
 issues as needed under the terms of this O&M contract, the EPC Contract or
 Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator
 will notify the Project Owner, present proposal and wait for authorization a course of
 action from the Project Owner.
- Inspect wiring and hardware for signs of damage from vandalism or animal damage.
 Operator to resolve issues as needed under the terms of this O&M contract, the EPC Contract or Manufacturer's Warranty. If any costs are to be incurred by the Project Owner, Operator will notify the Project Owner, present proposal and wait for authorization on a course of action from the Project Owner.
- Routine system maintenance to include correction of loose electrical connections, ground connections, replacement of defective fuses, other minor maintenance repair work. Tree trimming, and plant trimming work not included.
- Routine DAS maintenance to include sensor calibration and data integritycheck.

TROUBLESHOOTING, INSPECTION AND ADDITIONAL REPAIRS

- Dispatch of field services resources within 12 hours for repairs up to three times per year or as deemed necessary by Operator.
- Major system repairs, not to include mid-voltage switchgear or transformers.
- The Project Owner agrees to permit Local or State staff to enter the property at reasonable times and in a reasonable manner for the purpose of inspection.

CUSTOMER SERVICE SUPPORT

• Support line is available to Project Owner staff to answer questions or report issues. Fairy Lake, LLC, the Project Owner, can be contacted by email at assetmgmtteam@bluewave.energy and by phone at 617-681-4598.



MAJOR COMPONENTS

 Operator will represent Project Owner on all major component issues. In lieu of Operator, Fairy Lake, LLC, the Project Owner, can be contacted by email at assetmgmtteam@bluewave.energy and by phone at 617-681-4598.

REPORTING

- Monthly Production report will be available online to the Project Owner personnel.
- Annual Performance report will be sent electronically to the Project Owner personnel.
- O&M Manual updates. Complete versions of new editions to be delivered electronically to the Project Owner staff as they become available.
- As Built drawing updates, as necessary.

OTHER SYSTEM SERVICES

Facility staff training, one time per site which will include the follow basic training items:

- General Inspection: A full visual and physical inspection of all systems components and their immediate surroundings carried out in accordance with inspection checklists.
- Safety: Operator will train Project Owner staff on how to safely shut down the system.
- Tree Trimming/Plant Trimming: Operator will train Project Owner staff on what vegetation near structures that need to be trimmed as required by local site conditions.
- Structure Maintenance: Necessary preventive maintenance may be performed on system structural components to ensure continued safe and effective operation.
- The basics of performing a visual inspection: Checklist review with Operator.
- Performance characterization, as determined by Operator.
- O&M Manuals additional copies, as needed. Updated editions of O&M manuals will be sent electronically to the Project Owner as they become available.
- Management of long-term service and warranty agreements, ongoing. Operator shall provide Project Owner local DFD/AFSD with updates as required.
- Stormwater and Drainage Structure Maintenance: See Stormwater Report and associated BMP O&M and Long-Term Maintenance Plan on file with the Municipality for proper stormwater BMP maintenance schedule and procedures.

INVERTER REPAIR

Component replacement and refurbishment as required, in the event of a failure.

INVERTER INSPECTION AND REGULAR SERVICING

As required under inverter manufacturer's warranty specifications. Include but are not limited to the following, one time annually:

Check appearance/cleanliness of the cabinet, ventilation system and all exposed



surfaces.

- Inspect, clean/replace air filter elements.
- Check for corrosion on all terminals, cables and enclosure.
- Check all fuses.
- Perform a complete visual inspection of all internally mounted equipment including subassemblies, wiring harness, contractors, power supplies and all major components.
- Check condition of all the AC and DC surge suppressors.
- Torque terminals and all fasteners in electrical power connections.
- Check the operation of all safety devices (E-stop, door switches)
- Record all operating voltages and current readings via the front display panel.
- Record all inspections completed.
- Inform Manufacturer of all deficiencies identified.
- Manufacture will be responsible for the In-Warranty replacement of failed inverter components, parts and labor.

SERVICES UNDER THE FOLLOWING WARRANTIES

• 20-year warranty for inverters & batteries.

3.2 Notice of Transfer

Should the property or any portion of the property be transferred to another owner, the relevant Authorized Administrative Agency will be notified. The new owner will be notified of the presence of this Operation and Maintenance Plan and be held responsible for the implementation of this plan and financing as it pertains to their property.



4 VEGETATION MAINTENANCE PLAN AND SCHEDULE

Service	Preliminary Scope	Minimum Frequency
General Construction Management	Initial vegetation management prior to and during construction will utilize manual/mechanical methods such as chainsaws, pruners, mechanical mowing, or other heavy machinery. Vegetation that is completely within the limits of clearing may be trimmed down such that they are classified as lowlying growth or may be removed completely. Portions of trees and other vegetation that extend into the limits of clearing are typically trimmed.	-
General Operational Management	Post-construction, project design is intended to provide for minimal impact to surrounding vegetation during project operation and should not require regular vegetative mowing. General vegetation management will be conducted to primarily insure continued proper functioning of stormwater management system and that vegetation does not present a risk or physical hazard to the continued operation of the system.	-
BESS Facility Area	The BESS facility area will be composed of gravel and concrete equipment pads: vegetative growth will be minimal upon construction and maintained as such. Outside of the fenced-in area, vegetation will be allowed to grow and maintained to the extent necessary to prevent safety or operational hazards to the system.	Semi-Annual
• Access Road	Access roads will consist of compacted gravel surface. Neighboring vegetative growth will be trimmed and maintained to prevent overgrowth into the access road or any connected stormwater management features. Access road will be maintained and clear of snow to ensure safe access to the site.	Semi-Annual
 Overhead Electric 	Periodically cut tree limbs as needed	As Needed
Landscape Screening	Maintenance and replacement of the Vegetative Screening will occur periodically, as needed. Plantings will be installed utilize topsoil sources from the property where topsoil was required by be stripped (IE New Access Roads and Equipment Pads). Additional Topsoil will be brought into site if needed. Vendor Selection will prioritize local and/or regional qualified companies. Project Owner will work with selected vendor to implement final plan.	As Needed
Notice of Transfer	Should the property or any portion of the property be transferred to another owner, the relevant Authorized Administrative Agency will be notified. The new owner will be notified of this scope and be held responsible for implementation and financing.	
Consistency W/ State & Local Regulation s	All plans will adhere to Connecticut Siting Council rulings & local regulations on property vegetative maintenance, including the non-use of herbicides or pesticides on-site.	



5 STORMWATER BMP MAINTENANCE

Please reference the site Stormwater Report and associated BMP O&M and Long-Term Maintenance Plan on file with the CT DEEP for proper stormwater BMP maintenance schedule and procedures.