

## **BESS Maintenance Plan**

Battery Energy Storage System (BESS) Project

Guilford High School – Guilford, CT

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### **1. Overview**

Unlike rotating machinery such as combustion engines or gas turbines, Battery Energy Storage Systems (BESS) require minimal mechanical maintenance. However, to ensure optimal performance, safety, and compliance with manufacturer warranties, a structured maintenance program will be implemented for the full life of the Project.

### **2. Manufacturer-Specific Maintenance**

To maintain the integrity of the Tesla Megapack 2XL warranty, all maintenance activities will be performed exclusively by Tesla or Tesla-authorized service providers. This includes both preventive and corrective maintenance. Tesla requires an annual minor service and a major service every ten years.

- Annual Service: Visual inspections, system diagnostics, cleaning, and verification of thermal management systems.
- Ten-Year Service: Replacement of thermal management components (e.g., pumps, fans), coolant replenishment, and comprehensive system testing.  
Maintenance is expected to take approximately one hour per Megapack for annual service.

### **3. Maintenance Objectives**

The primary objectives of the maintenance plan are:

- Ensure system reliability and availability during peak demand periods.
- Maintain compliance with NFPA fire safety standards and Connecticut regulations.
- Preserve manufacturer warranties and extend asset life.
- Minimize environmental and safety risks.

#### 4. Maintenance Schedule

- **Annual Maintenance**

Performed once per year, typically before and after the summer season to ensure readiness for peak demand:

- **General Walkaround:** Inspect anchor torque marks, drain valves, fascia covers, door locks, enclosure integrity, exposure clearances, and grade conditions.
- **Bay Checks:** Inspect and replace (if needed) door latches, gaskets, grounding conductors, door switches, and harnesses. Perform thermal system inspection and torque checks; check for moisture.
- **Thermal Roof:** Check coolant levels, inspect ventilation system, clean radiators, and remove debris from air inlets.
- **Close-Out:** Secure door locks and fascia covers; update service records.
- **Tesla Site Controller:** Inspect and service as needed.

- **Five-Year Maintenance**

Performed once every 5 years:

- All annual maintenance tasks.
- Replacement of BESS stirring fans.

- **Ten-Year Maintenance**

Performed once every 10 years:

- All annual maintenance tasks.
- Coolant refill.
- Replacement of radiator fans, coolant pumps, and door gaskets.

- **Ongoing Requirements**

- Maintain accurate, current, and detailed service records for all maintenance and corrective activities.
- Retain records in accordance with provider's document retention protocols.

## **5. Monitoring and Remote Diagnostics**

The BESS will be continuously monitored via Tesla's remote operations platform, which provides real-time alerts for anomalies, thermal events, and performance deviations. This proactive monitoring reduces downtime and ensures rapid response to any issues.

## **6. Safety and Compliance**

- Fire detection and suppression systems will be tested per NFPA and local fire code requirements.
- All personnel performing maintenance will be trained and certified in lithium-ion battery safety protocols.
- Emergency response procedures will align with Tesla's Industrial Energy Emergency Response Guide.

## **7. Documentation and Reporting**

Logs of all inspections and maintenance activities will be maintained electronically and made available to the Connecticut Siting Council upon request. These records will include inspection date and cause for inspection. .

**Attachment A – Scale’s BESS Preventative Maintenance Schedule**

## BESS Preventative Maintenance Schedule

<b>Frequency:</b>	<b>Preventative Maintenance Services for BESS:</b>
Annual Maintenance:	General Walkaround – Inspect the following: 1. Anchor torque marks 2. Drain Valve 3. Fascia Covers 4. Door locks 5. Enclosure cleanliness & integrity – touch up paint or clean as needed 6. Exposure clearances as specified in the Site Design and Installation Manual 7. Grade conditions as specified in the Site Design and Installation Manual
	Bay Checks 1. Inspect Door Latches, replacement in kind if damaged 2. Inspect Door Gaskets, replacement in kind if damaged 3. Inspect Door Grounding Conductors, replacement in kind if damaged 4. Inspect Door Switch, replacement in kind if damaged 5. Harness inspection or replacement in kind if damaged (protective sleeve failure, rodents, etc.) 6. Thermal system inspection, service as needed 7. Torque checks 8. Check for moisture
	Thermal Roof 1. Coolant level check, fill if needed 2. Inspect cabinet ventilation system a. Clean Radiators if needed b. Remove any debris blocking air inlets
	Close Out 1. Secure door locks 2. Secure fascia covers, if applicable 3. Update Service Records
	Tesla Site Controller inspection, service as needed
	Provide a Preventative Maintenance Report in Tesla’s standard form, if requested by Buyer
5-Yearly Maintenance: Once every 5 years	Annual Maintenance
	BESS stirring fan replacement
10-Yearly Maintenance: Once every 10 years	Annual Maintenance
	BESS coolant refill
	BESS radiator fan replacement
	BESS coolant pump replacement
	BESS door gasket replacement
Ongoing:	Create and maintain records, reports and data relating to the Services and corrective maintenance activities (the “Service Records”). The Service Records will be accurate, current, complete and reasonably detailed.
	Retain the Service Records in accordance with Provider’s document retention protocols.