



Battery Energy Storage System (BESS) Maintenance Checklist

10 planned preventive maintenance tasks · Free PDF from PM Assist

A practical starting point for planned preventive maintenance. Always refer to the manufacturer's O&M manual and site-specific requirements.

Visual Checks

- ☐ Inspect DC and AC connections and busbars for tightness and heat
- ☐ Inspect enclosure, signage, and access/egress arrangements

Functional Checks

- ☐ Review the BMS for cell/module voltages, temperatures, and balancing
- ☐ Check the thermal management / cooling system operates correctly
- ☐ Check the inverter/PCS operation, error logs, and cooling
- ☐ Confirm state of charge/health and performance via monitoring

Safety Checks

- ☐ Verify ventilation and confirm no abnormal heat or swelling of modules
- ☐ Test the dedicated fire detection and suppression/alarm systems
- ☐ Verify isolation, emergency stop, and shutdown arrangements

Record Keeping

- ☐ Record cell data, temperatures, faults, and safety-system tests in the log

Maintenance Frequency

Quarterly

- Review BMS data and balancing
- Confirm cooling and ventilation
- Check inverter status and connections

Annually

- Full inspection and connection torque check
- Fire detection/suppression test
- Thermal management service
- Performance and capacity review