

BESS Lockout/Tagout Quick Reference

Battery Energy Storage Systems • OSHA 1910.147 Compliance

KEEP WITH YOU

THE SIX-STEP LOCKOUT PROCEDURE

- 1 NOTIFICATION** – Notify all affected employees that lockout is beginning. For BESS: Get system owner approval first.
- 2 PREPARATION** – Review equipment documentation. Identify ALL energy sources and isolation points.
- 3 SHUTDOWN** – Use normal operating procedures to shut down equipment. Never pull disconnects under load.
- 4 ISOLATION** – Open all energy isolating devices (disconnects, breakers, valves).
- 5 LOCKOUT/TAGOUT** – Apply YOUR personal lock and tag to each isolation point. One person = one lock.
- 6 VERIFICATION** – Test for zero energy at battery terminals, DC bus, AND work point. Use rated test equipment.

NON-NEGOTIABLE RULES

- ▶ **Never** work on equipment you're not trained on
- ▶ **Never** skip verification—test every time
- ▶ **Never** remove your lock until work is 100% complete
- ▶ **Never** work under someone else's lock
- ▶ **Never** ignore temperature alarms on batteries

REQUIRED PPE FOR BESS WORK

- Arc-rated suit (minimum 8 cal/cm²)
- Arc-rated face shield with hard hat
- Voltage-rated gloves (Class 0 or higher, 1000V+)
- Safety glasses under face shield
- Leather protectors over gloves
- Safety-toe boots (EH rated)

BESS-SPECIFIC REQUIREMENTS

- ▶ **System owner approval required** before ANY lockout
- ▶ **Stranded energy:** Batteries remain energized even after disconnects are open
- ▶ **Verify at multiple points:** Battery terminals, DC bus, work point
- ▶ **Grid coordination:** Notify grid operator 24-48 hrs before inverter work
- ▶ **Keep BMS active** to monitor temperature
- ▶ **Keep HVAC/fire suppression running**
- ▶ **Monitor for thermal runaway** signs during all work

BEFORE YOU START CHECKLIST

- System owner approval obtained?
- All affected employees notified?
- All energy sources identified?
- Personal lock and tag ready?
- Test equipment verified working?
- PPE inspected and donned?
- Lockout log completed?
- Emergency contacts available?

NEVER ASSUME ZERO ENERGY

Opening a disconnect does NOT de-energize batteries. Always test with properly rated equipment (1500V+ DC rated).

THERMAL RUNAWAY – IMMEDIATE ACTION

Signs: Rising temp alarms, smoke, sweet/chemical odor, hissing/popping

Action: EVACUATE immediately to 100+ feet. Do NOT investigate. Do NOT attempt to remove locks. Call emergency contacts.