

To: ESRB

From: REV Renewables

REV Renewables (REV) offers the following comments on the Guiding Questions and proposed edits to GO-167.

Guiding Questions

The following guiding questions have been developed for your consideration.

1. How can the proposed changes to GO 167-B be improved to promote the safety and reliability of Energy Storage Systems (ESSs)?
Are there other rules, codes, standards, and regulations that should be added to SED's proposed changes to GO 167-B in implementing the requirements of SB 1383?
 - A. REV requests guidance on how to manage sections that do not apply to ESS. For example, in Appendix D on Operation Standards, OS 27 is on corrosion control and does not seem applicable to ESS. Similarly, in Appendix A on Logbook Standards, events to log include hotwell drop tests and turbine stop valve tests, which do not apply to ESS. In cases such as these, please clarify whether justification needs to be provided or whether the operator can ignore non-applicable items.
 - B. In section 9.4 on Incident Reporting – REV additional clarification and edits, including:
 - a) On injury/illness and fatality reporting, REV requests this section follow Cal/OSHA standards for reporting employee/contractor accidents or injuries.
 - b) On damage to property, REV requests clarification on how to define damage. For example, is it limited to damage from an outside force (e.g. weather-related), or would it include equipment failure? REV suggests that it could be defined as if the cost is expected to be at or above \$500,000 or triggers an emergency service response, which would avoid capturing more routine equipment issues.
 - c) On reporting negative public attention or media coverage, REV suggests that this be limited to professional news media. If, for example, this includes social media it could be unduly burdensome to require plants to monitor all social media sites for comments about the plant.
 - C. For logbook standards in Appendix A, REV offers the following comments:
 - a) REV suggests a closer look at what items are valuable to log to show a safe and reliable plant and the frequency of collecting specific items. For example, state of charge (SOC) is an irrelevant data point at a single point in time. Availability, Load Max, Max Energy, and Min Energy may be more useful data points.
 - Appendix A notes that each item should be logged at start of Operator shift, but much of this information can be retrieved easily from plant data records and has little value to log manually in addition to the digital tracking. REV suggests that a communication system function check would be more useful than periodic logging. Focusing on turnover procedures, alarm configurations, and operator actions that include event driven logging is required for other standards and can prove to be valuable operator checks.

Additionally, many ESS facilities are operated by a Remote Operations Center at least part of the time (e.g. weekends and overnight). The frequency of logging information is particularly relevant for these facilities and could create significant additional cost to plants for little additional value.

- b) REV also requests clarity on what items need to be documented on site vs. using a secondary source to access. The ambient temperature, for example, notes it can be from a reliable climate data service, though clarification on whether this should just be from the nearest local source or other level would be helpful.
 - c) Definitions and granularity of data
 - REV requests definitions of terms, particularly “BESS State of Health”, as that is not a commonly used indicator at plants.
 - What granularity is required for equipment declared out of service? ESS can have thousands of battery racks in a single plant and they could come on and offline frequently. Therefore, tracking at a detailed level would be a burdensome task. REV recommends logging equipment out of service at the inverter level for this item.
 - What granularity is required for inverter logs? Inverters track very detailed data, and maintaining all of it for several years would be a significant data storage requirement. REV recommends logging inverter availability (whether it’s on or off) for this item.
2. Is the term “ESS” sufficiently defined and broad enough to capture all applicable utility-scale energy storage systems including current and emerging technologies?
 - a. What could be added to the proposed definition to make it more consistent with SB 1383?
 - b. Are the megawatt thresholds assigned in the proposed changes to GO 167-B (Large, medium, small) appropriately scaled for ES systems?

REV supports the megawatt thresholds, but suggests that for smaller facilities or facilities that are remotely monitored have reporting and logbook standards that are not unduly burdensome.
 3. What are the recommended timelines—which can include phased approaches or transition periods—to allow stakeholders sufficient time to comply with the new proposed regulatory requirements of GO 167-B? Please comment on the transition time period needed to implement the proposed Logbook Standards, Operation Standards, Maintenance Standards, Operation and Maintenance Compliance filings, Incident Reporting, and Outage Reporting requirements.
 - A. REV suggests that this is implemented in a phased approach, similar to when GO-167 was initially implemented. ESRB should allow sufficient time, at least two years, before the order is effective to properly budget and amend contracts to ensure compliance.
 - B. REV requests clarification that the items in GO-167 would only be required on a forward basis, and would not require documentation of historical events.
 4. As ESS technology quickly changes and evolves, how can the proposed changes to GO 167-B ensure that ESSs use the best available technologies and controls and that the GO sufficiently accounts for these changes and updates? Is a Best Available Technology standard appropriate to capture future modifications and changes to ESSs’ operations?
 - A. REV has no comment at this time

5. What metrics or parameters should be used to monitor and evaluate the performance of ESSs deployed to ensure compliance with proposed changes to GO 167-B? (e.g. Roundtrip efficiency, C-rate, State of Charge or State of Health metrics, charging and discharging status, etc.). How does the ESSO ensure situational awareness, control, and operational coordination between ESSO and ESS operations, (as well as coordinating with the off-taker)?
 - A. See responses in Question 1
 - B. In response to the question on how ESSO ensures situational awareness, the most pertinent pieces of operational coordination and control are communicated in real-time via telemetry to CAISO. CAISO also tests a site's response to market signals, particularly if offering in the ancillary services market.