April 16th, 2024

AES Comments in Response to Proposed Revisions to CPUC Operation and Maintenance Standards for Energy Storage Systems

AES appreciates the opportunity to provide input in response to the CPUC's recent Technical Workshop on Senate Bill 1383 Operation and Maintenance Standards for Energy Storage System. We direct our specific remarks towards the proposed revisions to General Order (GO) 167-B to implement operation and maintenance standards for energy storage systems as required by SB 1383.

General Comments

AES appreciates Staff's efforts in their proposed revisions to GO 167-B, and the challenges associated with pulling in Energy Storage Systems (ESS) into the process. Much of AES' detailed comments pertain to how the logbook standards apply to monitoring a fleet of renewable assets, including ESS, and the potential for increased administrative burden of implementing these logbook standards for potentially hundreds of sites and thousands of units on the timelines currently contemplated by the Commission.

At a high level, the timeline for compliance with the proposed revisions ought to be extended to allow for adequate implementation of new requirements and the necessary and associated training for staff and operators. For many ESS and renewable operators, the contemplated GO-167 B revisions will require significant changes for sites that have never had to comply with CPUC logbook standards. More time will be required for organizations to find a logbook tool, procure, implement, install, and then train all the operators to the standard. Furthermore, for entities with third-party contracted control center operators, this proposed regulation has the potential to impact the contractual size and scope with remote operators and adequate time for implementation will be necessary to comply.

In terms of overall clarity and transparency, there are several proposed regulations that AES seeks additional clarity on - AES recommends a focus specifically on safety and reliability as opposed to general information gathering. Terms need to be more clearly defined to promote consistent interpretation amongst auditors and compliances measures. As laid out in detail below, several of the new requirements appear to be unnecessary and/or duplicative of current reporting requirements to CASIO. Reporting should be streamlined to ease the administrative burden on operators.

DETAILED COMMENTS

Informational Requirements
- 9.3.1 Daily report to ISO:
    - This requirement is changing from monthly reports to daily, which represents approximately 30 times as much work.
    - A daily report seems duplicative since the control center is already required to provide real time outage tickets with the ISO for any change in a unit's availability of 1MW or greater and said reason.
    - If daily reports are still deemed necessary it will be relatively easy to provide a daily report that provides the site availability, but if detailing the reasons for the unavailability is required automation may not be possible. Can we omit the need

for unavailability reasoning especially considering our current outage reporting requirements per bullet above and just report site availability?

Appendix A - Logbook Standards
- How does the requirement apply to remote operators that are managing fleets of PV sites, battery sites and wind sites?
  - Logbook standards covered in Appendix A were based off maintaining logs for thermal assets, where the logbook is for a single facility with only a few units. Therefore, common terminology such as "facility" and "unit" do not make sense when thinking about control centers that are logging information for a fleet of renewable assets and thousands of "units" (inverters, wind turbines, batteries, etc.). These terms among others may need to be redefined.
    - In the case of control centers that are managing a fleet of assets, using the term "fleet" instead of facility and using the term "site" in lieu of unit seems more appropriate. Facility is analogous to fleet and unit is analogous to site in the case of control centers that monitor a fleet of renewable assets.
- Overall, there are many terms that need to be more clearly defined, especially with respect to ESS sites. Terms such as "BESS State of Health" "Round-Trip Efficiency." are two examples in need of a definition. This information is not inherently germane to safety as well.
- Equipment OOS Log: This needs a better definition of "equipment". Where is the line drawn when it comes to what equipment needs to be logged as OOS. For example, on a PV site there are hundreds of thousands of panels, do these need to be reported when they are OOS?
- Facility Status Report: For control centers that monitor a fleet of assets, this log entry is going to cumbersome and essentially be a report embedded in a logbook instead of being a logbook entry. As opposed to providing a report-like log entry, can this Facility Status Report be an exception like the Equipment OOS Log and Work Authorization log? Typically, GO's already produce a daily report with the same information being requested in logbook, with a few exceptions as indicated below.
  - Unclear on what to log for "dispatch instructions" for this report. Any verbal dispatch instructions requested of the control room are already logged in logbook in real-time.
  - Providing weather information as part of the status report seems to be duplicative as telemetry data, which includes the relevant data for the TO and ISO is already being continuously fed to them from station meteorological stations.
- Logging changes due to any changes in facility output does not make sense for renewables whose output changes *constantly* with weather conditions (irradiance, wind, rain, etc.)
- Starting and Stopping of Equipment - where is the line drawn for what equipment that we log, and under what conditions the starting and stopping of equipment is supposed to be logged?
  - Perhaps it's better to write this "*Starting and stopping of equipment ~~and~~ during or due to any associated abnormal conditions.*"

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- For Battery Energy Storage Systems logbook requirements questions:

10) Additionally, for Battery Energy Storage Systems but not limited to:

a) Apparent power (kVA)/phase, real power (kW) and Volts on each phase; recorded in 15-minute intervals;
b) HVAC operating status;
c) BESS state of charge (SOC);
d) BESS state of health (SOH);
e) Ambient temperature, hourly average at hourly intervals, either from on-site measurements or a reliable climate data service;
f) Inverter logs; and
g) Supervisory control and data acquisition (SCADA) logs and logs historical data, service record log.

   o The data requested to be logged in 10(a) is already continuously sent to the TO, ISO and EDAS as this data is required to be fed to them. Additionally, all this data is stored in a SCADA's data historian and can be retrieved at any time upon request. Further, logging this in 15-minute increments would be an extreme burden to the operator.
   o HVAC operating status – This will be challenging to log as there are dozens and dozens of HVAC systems per site. Further if there are impacts that HVAC has on site production/status, that will be captured in our outage reporting obligations to the CAISO.
   o Define what BESS State of Health (SOH) is.
   o SOC and ambient temperature among other weather parameters data is continuously provided to TO and ISO via the site's telemetry.
   o Define what the following mean: Inverter logs, SCADA logs, Logs historical data, and Service record log.

Maintenance Standards
- We question the need to include emerging technologies for problem prevention and engineering and technical support if the assets are known technologies.
- We believe there should be more specificity and guardrails around what types of technologies warrant this type of standard, and under what set of circumstances.

Operation Standards
- We support inclusion of SB 38 plans into Operating standards.

<u>Outage Reporting</u>

- Incident Reporting
  - o We oppose the deletion of the "Safety-Related" descriptor from Reportable Incidents. We believe reporting should be focused on safety-related events.
  - o There needs to be clarity about what is an "incident."
  - o There also needs to be additional clarity around what is "damage." We believe the $200,000 threshold is extremely low for these types of facilities when the inclusion of labor is considered.
  - o We oppose the proposal to lower the threshold for reporting of negative media attention to outlets servicing populations of 25,000. We suggest maintaining the current threshold.
    - ▪ There needs to be additional clarity about what type of information is reportable and we suggest that it is directly related to safety and tied to incident reporting.
    - ▪ There also needs to be clarity about what type of "media." We would strongly recommend that media reporting be limited to professional news media.