Company
Docket No. 26-08-05
Response to Interrogatory CAE-22
Date of Submission: August 28th, 2026
Witness: Sergio Carrillo Connecticut Green Bank

Question:

CAE-22 Program Administrator Order No. 3 Compliance, Aug. 3, 2026, Att. 2, p. 18. Comment on the findings and recommendations related to data quality presented in Table 2-1. Explain whether the recommendations have been implemented, are being pursued, or should be pursued. If any recommendations have not been or will not be pursued, explain the basis for that decision.

Response:

Table 2-1 – First Finding - *CES identified instances in which projects consistently reported max kW discharged or stored kWh in the telemetry data that exceed nameplate values. CES is aware that this is a question that the Program Administrators have raised with DERMS providers and OEMs.*

CES made Green Bank aware of this issue and at the request of the Green Bank, CES cataloged instances of these max kW discharged and max kWh stored energy telemetry values. The pattern and frequency of these inflated values differed between Original Equipment Manufacturers ("OEMs").

For some of these OEMs, these inflated values are localized to discrete intervals or 'spikes' that can be observed in the telemetry values. We shared these findings with the affected OEMs and in most cases the spikes observed in the Distributed Energy Management Systems ("DERMS") telemetry were not seen in the OEM's telemetry records. One hypothesis for the cause of these spikes is that interval stacking occurs during telemetry delivery from the OEMs to the DERMS when 5 minute or shorter telemetry intervals are aggregated into 15-minute intervals. Green Bank urged OEMs to investigate this issue with the DERMS as it could be due to problems with the DERMS software integrations and to make adjustments to the integration where necessary. In some cases, OEMs have been able to greatly reduce the number of data spikes appearing in the DERMS telemetry. As any remaining data spikes are highly localized, they typically do not have an appreciable impact on event performance evaluations.

For other OEMs the inflated values are not localized to discrete intervals but are instead persistently occurring across many intervals. Some of these persistent, inflated values can be explained by inaccurate nameplate values in enrollment data. For example, if enrollment data indicates a single battery storage device is installed, but a second battery storage device of the same size is installed and unreported, telemetry values could be up to double the nameplate ratings. These enrollment data inaccuracies are rare in contractor-led enrollments through the enrollment portal, as contractors provide one-line electrical diagrams and customer signed contracts in the enrollment process which allows the Green Bank to validate nameplate values and discuss potential enrollment application discrepancies with the contractor. Further, contractors are incentivized to report capacity values accurately, as contractor-led enrollments are eligible for capacity-based upfront or enrollment incentives. However, customer-led

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enrollments or self-enrollments, which are submitted through OEM apps are transmitted directly to the DERMS platforms without one-line diagrams and customer signed contracts or other important enrollment information, so reported nameplate values may not be accurate and are not verifiable. Further, nameplate values cannot always be confirmed reliably in utility interconnection data, nor can some of the other important enrollment data.

CES has alerted Green Bank that there is a second category of persistent telemetry values in excess of nameplate ratings. In these cases, inflated telemetry values are not multiplicative of the nameplate ratings indicating unreported installed devices. Instead, these projects report max telemetry values that may be 5%-20% higher than nameplate values. Green Bank is exploring this phenomenon with CES, the affected OEMs, and the DERMS providers. Green Bank did not identify this phenomenon in Passive performance evaluations for the 2025 as it was primarily observed in telemetry from an OEM that was not yet participating in Passive dispatch.

Table 2-1 – First Recommendation - *The Program Administrators should continue to engage with DERMS providers and OEMs to resolve this issue. To the extent that a satisfactory explanation or adjustment to the data cannot be made by the DERMS providers and/or OEMs, the Program Administrators should consider scaling telemetry values (particularly the kW discharged field, given that it determines performance payments) to ensure that telemetry values match nameplate values.*

Green Bank agrees with CES's recommendation to continue to engage with DERMS providers and OEMs to resolve these issues. As detailed below in response to CES's second recommendation, Green Bank is consistently engaging with OEMs and DERMS providers to resolve data quality issues.

Regarding scaling telemetry values to ensure telemetry values match nameplate values. Green Bank believes it is best to get the data resolved with the OEMS and backfilled with the DERMS and that altering telemetry values should only be a last resort to resolve data quality issues in cases where erroneous performance calculations could lead to erroneous performance payment calculations. As discussed above in the comments on CES's findings, Green Bank will continue to explore potential causes of mismatched telemetry and nameplate values. First, nameplate values in enrollment data should be validated. Then, DERMS telemetry values should be validated against OEM telemetry values. OEMs and DERMS providers should investigate potential integration related data delivery issues and if found, the integration issues should be corrected and affected telemetry should be backfilled into the DERMS telemetry records. However, if discrepancies between nameplate values and max telemetry values cannot be resolved through these means, and inflated telemetry values are persistent and not localized spikes, Green Bank would consider scaling telemetry values to avoid miscalculation of performance payments.

As CES points out in their recommendation, inflated kW values present a greater risk to performance calculation inaccuracies, as Active performance payments are determined

exclusively by these kW discharge values. By contrast, Passive performance evaluations are calculated using two telemetry values, stored kWh values and kWh discharged values, as well as the nameplate values from enrollment data. kWh discharged values are summed for each Passive hour and compared to a target dispatch for that hour which is calculated from a combination of the stored kWh in the battery at the start of the event and the nameplate capacity of the battery. While inflated kWh dispatched values would tend to show inflated Passive performance values, inflated stored kWh values would raise the target dispatch and lower the device's assessed Passive performance. The two telemetry components of the Passive evaluation formula counteract one another, assuming that inflated telemetry values are consistent between the two telemetry fields.

Green Bank will continue to engage with OEMs and DERMS providers to encourage data QA/QC and will remain attentive for telemetry issues that cannot be resolved through these QA/QC processes and require greater attention intervention to protect ratepayer funds.

Table 2-1 – Second Finding - *CES is aware that the Program Administrators often identify data quality issues before OEMs or DERMS providers.*

Green Bank agrees with CES's finding.

OEMs have reported to Green Bank that they do not have visibility on telemetry data after it enters the DERMS platforms. Once Green Bank began sharing DERMS telemetry data and analytics, OEMs reported that this was their first opportunity to view the DERMS data that is used to evaluate the performance of their devices. Through this process of sharing data and analytics, OEMs discovered data quality issues such as missing values, sign reversals, and transposed data fields that were not present in their telemetry records.

Green Bank frequently flags telemetry data quality issues to the DERMS providers before they are aware. This is often due to the DERMS practice of waiting until after the season is over before analyzing device performance. While some telemetry data quality issues can be addressed after the season with data backfills, data quality issues like missing telemetry can mask underlying device programing and integration issues that may cause poor device behavior during dispatch events that cannot be addressed after the season.

Table 2-1 – Second Recommendation - *The Program Administrators should continue to push DERMS providers to implement more rigorous and proactive quality control. While OEMs also play a critical role in maintaining high-quality data, the DERMS providers are best positioned to provide ongoing, proactive quality control.*

As discussed in the Energy Storage Solutions Technical Meeting 1 on August 7th, 2026, Green Bank is sharing Summer 2026 Passive Dispatch performance reports with OEMs on a weekly basis. This affords OEMs an opportunity to compare device performance as seen in OEM telemetry records vs the DERMS telemetry records. This timely feedback has allowed OEMs to adjust device programing issues mid-season rather than waiting until post-season once those

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programing issues have already caused poor event participation. Further, Green Bank has added the 'Dispatch Event Metrics' page to the ESS Data Dashboard[1] which provides OEMs, Contractors, Customers and DERMS providers an opportunity to view device performance analytics as each dispatch season progresses. Green Bank encourages OEMs to reach out the DERMS providers once data quality issues are identified and, in many cases, Green Bank facilitates the conversations with the DERMS providers to ensure all parties are in agreement on next steps.

[1] https://energystoragect.com/ess-performance-report/