



August 20, 2025

Ms. Anja Gilbert  
California Independent System Operator  
250 Outcropping Way  
Folsom, CA 95630

**RE: Comments of Center for Resource Solutions on the Greenhouse Gas Coordination Accounting and Reporting Draft Final Proposal and Public Report Draft**

Dear Ms. Gilbert,

Center for Resource Solutions (CRS) appreciates the opportunity to comment on the California Independent System Operator's (CAISO's) Draft Final Proposal for the Accounting and Reporting (A&R) approach. We strongly support the proposed requirement for null power reporting in this proposal and commend CAISO Staff for advancing an approach that ensures accurate, consistent, and policy-neutral greenhouse gas (GHG) emissions accounting.

**Background on CRS and the Green-e® Program**

CRS is a 501(c)(3) nonprofit organization with over 25 years of experience advancing robust, market-based solutions to support clean energy deployment and credible carbon accounting across the U.S. and internationally. We provide independent technical expertise, analytical tools, and programmatic solutions that enable reliable, transparent, and policy-neutral approaches to clean energy and emissions reduction goals.

CRS works directly with federal and state agencies, system operators, utilities, energy producers, and market participants to address the challenges of aligning electricity markets with diverse and evolving climate policies. We specialize in the design and evaluation of GHG accounting frameworks, the interaction of environmental attribute tracking systems with energy markets, and the treatment of renewable energy certificates (RECs) in regulatory and voluntary programs.

We also administer the Green-e® Energy program—the leading independent certification for renewable electricity in North America. Green-e® Energy supports voluntary action and market integrity through

rigorous standards and third-party verification, certifying over 125 million megawatt-hours (MWh) in renewable energy sales annually and serving over 1.3 million purchasers, including 300,000 businesses.<sup>1</sup>

Through our engagement with regional market initiatives, including CAISO's GHG Coordination Working Group, CRS supports the development of harmonized, practical accounting frameworks that reflect contractual delivery, respect jurisdictional differences, and preserve the credibility of emissions data across the West. Our work is grounded in stakeholder collaboration, factual rigor, and a commitment to durable climate solutions that work within and across state lines.

### **Support for Required Null Power Reporting**

CRS strongly supports the requirement for null power reporting in CAISO's Draft Final Proposal for the A&R approach. This proposed approach to null power supports accurate and transparent emissions reporting, protects against double counting, and improves alignment across regulatory and voluntary markets. It supports credible clean energy claims while preserving state flexibility and ensuring the integrity of emissions data in a regional context.

The approach appropriately recognizes that RECs are widely used in the West to allocate renewable generation to load, and that generation cannot be allocated to more than one retail use. It does not conflate RECs with emissions, but correctly understands them as contractual instruments that allocate generation and emissions to load. Because CAISO's A&R approach is load-based, it must account for instruments like RECs, which are used in both state and voluntary programs to verify the delivery of zero-emissions attributes.

Although state programs vary in how they treat RECs and null power, this variation underscores the need for a common accounting framework that promotes consistency, transparency, and alignment across jurisdictions. CAISO is not creating or enforcing policy. Rather, its accounting framework should recognize REC ownership to avoid conflicting retail claims on generation and to prevent the development of parallel, inconsistent accounting systems.

Importantly, this A&R approach does not duplicate the function of the Western Renewable Energy Generation Information System (WREGIS) by accounting for null power. Instead, it complements WREGIS by resolving parallel tracking concerns and supporting credible clean energy claims across jurisdictions. The proposal does not impose REC-based policy on states or preempt state law. It provides standardized, non-binding outputs that states may adopt or adjust as needed.

Starting with a transparent system that prevents double counting is far more practical than trying to resolve conflicts after the fact. For states that do not rely on RECs, it is relatively straightforward to apply

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<sup>1</sup> See the 2024 (2023 Data) Green-e® Verification Report here for more information: <https://resource-solutions.org/g2024/>.

specified emissions to clearly identified null power. In contrast, states and market participants that depend on RECs would face significant challenges untangling unspecified or overlapping claims retroactively.

We would like to emphasize that this approach does not introduce any accounting error. On the contrary—it prevents one. While reporting null power—energy from renewable generators whose RECs have been sold—may result in allocated emissions (including emissions assigned to null power in reporting entity portfolios) exceeding total generator emissions in a given reporting interval, this is not a distortion. It reflects the transfer of zero-emission attributes elsewhere and ensures that both claimed and unclaimed generation are properly represented in a load-based accounting system. Market dispatch data reflects physical system operations, but does not track the contractual delivery of generation attributes to retail load. Load-based GHG emissions accounting requires REC tracking to determine what emissions are properly attributable to reporting entities. The proposed approach maintains accounting integrity over the entire period during which generation and RECs are transacted, even if total emissions appear different from generator emissions in a single reporting interval. This outcome is expected—and necessary—for accurate load-based reporting.

Support for this general approach to RECs within an emissions accounting framework comes from a diverse set of independent, expert voices. The Brattle Group's April 2025 report, *Enhancing Greenhouse Gas Accounting and Dispatch Support in the CAISO and SPP Markets+*,<sup>2</sup> underscores the importance of aligning clean energy claims with GHG allocations to support economic efficiency and policy credibility across jurisdictions. The authors emphasize that proposals from CAISO and SPP Markets+ at the time of publication lack mechanisms to verify that non-emitting energy supply is supported by exclusive REC ownership, creating risks of double counting and leakage. They recommend that clean energy megawatts (MW) offered into regional transmission organization (RTO) markets be backed either by REC surrender or certification that attributes have not been otherwise sold or claimed, ensuring mutually exclusive attribution. Such an approach would prevent duplication of clean energy claims in both market dispatch and post-market GHG accounting. The report further highlights the need to exclude null power from the residual mix emissions rate to avoid overstating zero-emission contributions and calls for accurate GHG accounting to drive efficient resource operation, investment, and policy compliance. Ultimately, Brattle argues that REC-aligned GHG tracking enhances market integrity and enables proper attribution of clean energy in regional markets—supporting credible transfer of environmental claims and informed regulatory oversight.

In addition, both California's Independent Emissions Market Advisory Committee (IEMAC) and CAISO's Department of Market Monitoring (DMM) have highlighted the risks of double counting and conflicting

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<sup>2</sup> The Brattle Group. April 29, 2025. *Enhancing Greenhouse Gas Accounting and Dispatch Support in the CAISO and SPP Markets+*. Available at: <https://www.brattle.com/wp-content/uploads/2025/05/Enhancing-Greenhouse-Gas-Accounting-and-Dispatch-Support-in-the-CAISO-and-SPP-Markets.pdf>.

emissions claims resulting from uncoordinated GHG and renewable energy accounting systems. IEMAC's 2019 Annual Report<sup>3</sup> identified fundamental inconsistencies in how different Western states implement climate policies—specifically, the potential for double counting when one state claims a REC associated with zero-emission generation while another state simultaneously counts the associated energy delivery under its GHG program. To mitigate this, IEMAC called for greater transparency from the California Air Resources Board (CARB), recommending more granular public reporting on renewable electricity imports, including REC bundling status and geographic origin, to support alignment with other state data systems. Similarly, CAISO's DMM<sup>4</sup> raised concerns about the treatment of null power—generation from resources whose RECs have been transferred—and warned that parallel accounting systems could lead to conflicting claims on the same non-emitting generation. DMM emphasized the value of institutional consistency in GHG metrics and standards to reduce inter-agency misalignment and enhance regulatory transparency.

Together, these perspectives reinforce the same principles CRS advocates: that emissions accounting must reflect contractual delivery of clean energy attributes in order to be credible, policy-neutral, and aligned across jurisdictions.

While some stakeholders have questioned the rationale for requiring null power reporting rather than making it optional, a requirement ensures an accurate reflection of null power and avoids the risks associated with optional reporting. If null power reporting were left to the discretion of reporting entities, some null power could go unreported, resulting in market data that fails to reflect the full volume of null power identifiable through WREGIS certificate data. This would undermine not only the credibility of the underlying RECs but also the integrity of the A&R framework, as RECs could otherwise be used to allocate generation and emissions both within and outside the temporal or geographic boundaries of the market. In contrast, requiring null power reporting preserves flexibility without imposing REC-based mandates.

The null power reporting requirement should apply equally to utility-owned resources and independent power producer (IPP) resources. Allowing “unmapped” IPP generation to enter the residual mix as specified power would result in that generation being incorrectly assigned to load on a specified basis, since the residual rate is applied to unfulfilled load or unspecified purchases—even if the RECs have been retained or sold elsewhere. If an IPP has not transferred the RECs to a reporting entity or retired them on behalf of the residual mix, the associated generation should be treated as null, not specified. Only in the rare case where an IPP explicitly retires the RECs on behalf of the residual mix should that generation be exempt from null power designation, and the IPP should report this to CAISO accordingly. Conversely, if an IPP's generation is sold to a reporting entity, it would not enter the

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<sup>3</sup> California's Independent Emissions Market Advisory Committee (IEMAC). *Annual Report – 2019*. Pg. 16-17. Available at: [https://calepa.ca.gov/wp-content/uploads/2020/01/Final\\_2019\\_IEMAC\\_Annual\\_Report\\_2019\\_12\\_06.a.pdf](https://calepa.ca.gov/wp-content/uploads/2020/01/Final_2019_IEMAC_Annual_Report_2019_12_06.a.pdf).

<sup>4</sup> CAISO Department of Market Monitoring. June 12, 2025 Comments on Greenhouse Gas Coordination May 22, 2025 Working Group Meeting.

residual mix and would instead be mapped directly to that entity. If the RECs are included in the transaction, both parties can attest to this, and the generation would be treated as specified. If the RECs are not included, the generation must be treated as null in the reporting entity's private report.

Finally, some stakeholders have argued that CAISO should not require null power reporting without first engaging directly with WREGIS and obtaining a formal partnership or explicit endorsement of the approach. However, it is unclear why such a formal agreement is necessary. WREGIS is a registry and “banking” system for RECs—it does not own RECs, administer REC programs, or control REC markets. Just as CAISO does not need explicit permission from individual states to recognize REC-based claims, it likewise does not need WREGIS's endorsement to account for emissions in a way that reflects REC ownership. In fact, CAISO not only has the authority—but arguably the responsibility—to acknowledge claims derived from RECs and WREGIS certificates as part of its A&R framework. That said, CAISO and CRS have engaged publicly with WREGIS on multiple occasions regarding the proposed null power reporting approach. The proposal and supporting documents have been shared with WREGIS Staff and discussed in several public meetings of the WREGIS Stakeholder Advisory Committee (SAC). CRS also submitted a public letter to WREGIS Staff and the SAC detailing the proposed approach and potential for data sharing. In addition, two small-group meetings were held with the WREGIS SAC, both open to the public. Most recently, on August 1, CAISO staff met with WREGIS Staff to present the draft final proposal and null power reporting requirement. At that meeting, WREGIS Staff expressed general support for the approach and stated that implementation would likely not require further stakeholder input.

### **Support for a Default to Null Power for WREGIS-registered Generation**

CRS supports an approach to default to null power for WREGIS-registered generation unless the reporting entity makes an affirmative statement about the associated RECs. This would mean that rather than defaulting as specified unless the reporting entity designates it as null, for WREGIS-registered generation, the generation would be reported as null unless it is specifically designated as specified by the reporting entity (meaning the reporting entity must state that it has the associated RECs). This is a practical, policy-neutral step that strengthens the integrity of emissions accounting, promotes transparency, and minimizes administrative burden. It also aligns with the diversity of state policies and provides a conservative, consistent method for accounting for renewable generation that is separately tracked and may be separately allocated. While this default avoids double counting, it does not substantively differ in outcome from the Southwest Power Pool's (SPP's) chosen approach for Markets+ GHG Tracking and Reporting, which defaults to specified power—provided reporting entities accurately and completely disclose REC disposition. The only meaningful difference between a default-to-null approach and required null power reporting is that the former places a lighter burden on reporting entities and market participants while achieving the same policy objective.

The default-to-null approach also offers a practical solution for entities that are unable to identify which generation should be reported as null power—typically because they lack visibility into REC ownership or disposition. By defaulting all WREGIS-registered generation to null unless the reporting or bidding entity affirmatively designates it as specified, this approach eliminates the need for entities to track or identify null power themselves. Only if an entity holds the REC or knows its disposition would the generation be reported as specified; otherwise, it is automatically treated as null. This not only prevents double counting but also reduces reporting complexity, making the system more accessible and reliable for all participants.

With respect to the Bonneville Power Administration (BPA), our understanding is that it participates in the market by bidding aggregated groups of generators under a system-wide emissions factor for asset-controlling suppliers (ACS), rather than submitting bids from individual resources. All RECs generated by the federal system are contractually allocated to BPA's preference customers, and BPA does not retire RECs based on organized market dispatch or retain additional RECs that could be assigned elsewhere. Its ACS emissions factor is generally determined by the states. Importantly, BPA's fuel mix includes no thermal resources, though it does incorporate a small share (approximately 3–10% annually) of unspecified market purchases. In addition, only about 1% of federal system generation currently results in WREGIS-issued RECs, primarily from efficiency upgrades at hydro and wind facilities. Given these factors, BPA is unable to identify individual generators in WREGIS for null power designation, and the ACS emissions factor likely includes renewable generation for which the RECs have already been transferred—introducing a small amount of double counting under load-based accounting. However, because there are no thermal resources in the mix and the number of issued RECs remains limited, this discrepancy is minimal, and continued use of BPA's ACS emissions factor remains acceptable for now. This may change as WREGIS issuance for federal hydropower increases. At that point, BPA and affected states—such as Washington—should reevaluate the ACS emissions factor to prevent more significant double counting and notify CAISO of the appropriate emissions rate to use.

In summary, CAISO's proposed treatment of null power in the draft final proposal is a sound, conservative, and thoughtful path forward. It will ensure accurate, trustworthy GHG accounting and support clean energy markets and various state goals across the West.

### **Comment on Proposal Not to Include Allocated Generation and Emissions Totals in the Public Report**

Not including total allocated emissions (previously referred to as the “Aggregated Mapped Data Set”) in the public report is preferable to publishing an allocated emissions total that omits null power emissions—an omission that would lead to undercounting emissions and, effectively, double counting the clean attributes associated with sold RECs. While the absence of total allocated emissions in the public report is not ideal, it is acceptable provided that, as proposed, reporting entities receive detailed private reports. These reports include allocated emissions from specified resources, emissions

associated with allocated null power, and a residual emissions rate—based on each entity’s preferences and applicable state policies—that is used to assign emissions to any remaining load.

It is critical that emissions be assigned to null power in the allocated totals. The “Residual Rate Data Set” is used to calculate a residual emissions rate, which in turn is applied to null power, market purchases, and any load not matched to specified generation. To accurately calculate the residual rate, null power MWh must be excluded from the denominator—since their associated zero-emissions attributes have been sold and are no longer part of the residual mix. This results in a higher residual rate, which appropriately reflects the emissions intensity of the remaining, unspecified power.

However, once the residual rate is calculated, it must be applied to null power when assigning emissions in the allocated totals. If null power is excluded from those totals, it is effectively treated as zero-emissions, which misrepresents its true emissions profile. Null power was generated, allocated, and consumed—and comes with emissions. Failing to assign emissions to it not only undercounts total allocated emissions, but also double counts the zero-emissions attributes that have already been claimed elsewhere through RECs.

In summary, null power MWh must be excluded from the residual rate calculation to preserve the integrity of the rate, but then that rate must be used to assign emissions to null power in the allocated emissions totals. This is the only way to avoid both undercounting and double counting, and to ensure emissions are fully and accurately allocated across all consumption.

That said, the removal of the total allocated emissions dataset (the former “Aggregated Mapped Data Set”) from the public report remains suboptimal, as it limits broader transparency into changes in load-based emissions over time.

### **Comment on Proposal Not to Calculate a Public Residual Rate for the Market**

We understand the draft final proposal to mean that CAISO will not publish a single, public residual emissions rate but will instead provide residual rate data that enables the calculation of both a null-power-adjusted and unadjusted residual rate. Reporting entities will inform CAISO of their preferences and relevant state guidelines for null power treatment, and CAISO will use this information to calculate a residual rate appropriate for each entity. This rate will be used to assign emissions to any unfulfilled load—i.e., load in excess of mapped generation—in the reporting entity’s private report. Additionally, reporting entities will indicate their preferred emissions rate for allocated null power, which could be the market residual rate, a specified rate allowed under a state program, or a default rate required by regulation. CAISO will apply this designated rate to calculate emissions associated with null power in each entity’s private report. We support CAISO’s decision to break out null power separately in the public residual rate dataset, as this approach ensures that null power is not treated as specified, clearly identifies its presence in the residual mix, and facilitates the calculation of a null-power-adjusted

residual rate by excluding null power MWh from the denominator. This treatment helps prevent double counting of renewable energy in load-based accounting. While this is acceptable, it will result in some inconsistency and potential double counting across entity-level reports. Ideally, all reporting entities should use a null-power-adjusted residual rate to assign emissions to both unfulfilled load and allocated null power to ensure consistency and accounting integrity across the system.

### **Recommend Reporting to WREGIS**

As described in CRS's proposal included with the Straw Proposal (Appendix A of the Straw Proposal), for WREGIS-registered renewables that are allocated on a resource-specific basis through the CAISO A&R framework, CAISO should provide generator-specific allocation data to WREGIS on a monthly basis so that the associated RECs can be tagged with this information to ensure transparency. This step is essential because the allocation data reflects the same environmental attributes embedded in the RECs and may directly affect the legitimacy of claims made by certificate holders. Reporting to WREGIS is necessary regardless of whether a default-to-null approach is adopted. Even if null power is accurately reported and resource-specific allocation of WREGIS-registered renewables aligns with REC disposition at the time of A&R reporting, WREGIS still needs this data in case REC transactions occur after A&R allocation. If, instead, the optional null power reporting approach is adopted—rather than the proposed requirement—reporting to WREGIS becomes even more critical. In such cases, where null power may not be voluntarily reported or where RECs are transacted after CAISO's A&R allocation, WREGIS will serve as the only mechanism to carry forward accurate allocation information tied to specific RECs and prevent misaligned or double-counted claims.

Please let me know if we can provide any further information or answer any other questions.

Sincerely,

\_\_\_\_\_/s/\_\_\_\_

Todd Jones

Head of Policy