



ORA

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THE OFFICE OF RATEPAYER ADVOCATES' COMMENTS ON THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S EIM GREENHOUSE GAS ENHANCEMENT REVISED DRAFT FINAL PROPOSAL

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The Office of Ratepayer Advocates (ORA) is the independent consumer advocate within the California Public Utilities Commission (CPUC), with a mandate to obtain the lowest possible rates for utility services consistent with safety, reliability and the state's environmental goals.

ORA submits these comments on the California Independent System Operator's (CAISO) Energy Imbalance Market (EIM) Greenhouse Gas (GHG) Enhancement Revised Draft Final Proposal issued on June 23, 2017.¹ The CAISO is planning to implement a two-pass solution in the real-time market to accurately attribute GHG emissions to resources dispatched outside of California to serve load in California. The California Air Resource Board (ARB) relies on the CAISO market results reported by the EIM participating resource scheduling coordinators to identify resources that support transfers to California to impose compliance obligations under the Cap-and-Trade program.²

ARB Considerations

In its proposed amendments to the current Cap-and-Trade regulations,³ the ARB raised concerns regarding "emissions leakage" that could occur due to the EIM cost optimization modeling.⁴ In its Staff Report, the ARB stated that the EIM cost optimization model sometimes identifies zero-emissions power as dispatched to California before high-emitting resources are deemed dispatched to the State when there is a load imbalance. Thus, according to the ARB the model's result indicates the zero-emission power as "deemed delivered" to California, whereas,

¹ CAISO's Revised Draft Final Proposal- Energy Imbalance Market Greenhouse Gas Enhancements. Available: <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>.

² CAISO's Revised Draft Final Proposal- Energy Imbalance Market Greenhouse Gas Enhancements, p. 3. Available: <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>.

³ *Staff Report: Initial Statement of Reasons on the Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms*, (ARB Staff Report), pp. 51-52. <https://www.arb.ca.gov/regact/2016/capandtrade16/isor.pdf>.

⁴ The ARB stated that "emissions leakage occurs when it appears there has been a GHG emissions reduction through accounting for California program purposes, but the atmosphere did not actually experience that real GHG reduction." ARB Staff Report, p. 51.

in certain instances, the GHG emissions of full transfers that support balancing the load to California are not identified and accounted for.⁵ The ARB states that EIM accounting in such instances is not consistent with the California Cap-and-Trade program, which is intended to account for all the GHG emissions from electricity delivered to and consumed in California.⁶

Revised Proposal

In its Revised Draft Final Proposal (issued on June 23, 2016), the CAISO changed the original proposed design⁷ of the two-pass solution to include EIM participating resources located outside of California, that are contracted with a load serving entity in California to serve load in California (referred to as "California Supply"), in the first-pass optimization.⁸ The CAISO's original first-pass optimizes dispatches without allowing transfers to California from resources outside of California, by setting their GHG bids to zero. The CAISO's Revised Draft Final Proposal would still prevent transfers from EIM resources to California in the first pass, except for "California Supply" resources.⁹ The CAISO's Revised Draft Final Proposal would limit the GHG bid quantity in the second-pass for "California Supply" resources, as well as other EIM participating resources, to the difference between the resources' upper economic limit and their GHG allocation base determined in the first-pass.¹⁰

ORA Concerns and Recommendations

The ultimate objective of the CAISO's proposed two-pass solution should be to determine the GHG emissions for resources located outside of California dispatched to serve load in California using consistent GHG accounting with the ARB. This objective will assist ARB in accurately attributing the compliance obligations for these resources under the Cap-and-Trade regulations.

⁵ *Staff Report: Initial Statement of Reasons on the Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms*, (ARB Staff Report), pp. 51-52. <https://www.arb.ca.gov/regact/2016/capandtrade16/isor.pdf>.

⁶ *Staff Report: Initial Statement of Reasons on the Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms*, (ARB Staff Report), pp. 51-52. <https://www.arb.ca.gov/regact/2016/capandtrade16/isor.pdf>.

⁷ CAISO's initial Straw Proposal was issued in November 17, 2016. Available: <http://www.caiso.com/informed/Pages/StakeholderProcesses/RegionalIntegrationEIMGreenhouseGasCompliance.aspx>.

⁸ CAISO's Revised Draft Final Proposal- Energy Imbalance Market Greenhouse Gas Enhancements, p. 5. Available: <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>.

⁹ The difference between the Revised Final Draft and the Final Draft is replacing a resource specific constraint that GHG attribution must be above the GHG allocation base determined in the first pass, with limiting the available capacity bid of EIM participating resources based on the results from the first-pass. CAISO's Draft Final Proposal, issued on May 24, 2017, available: <http://www.caiso.com/Documents/DraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancement.pdf>.

¹⁰ CAISO's Revised Draft Final Proposal- Energy Imbalance Market Greenhouse Gas Enhancements, p. 12. Available: <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>.

The CAISO's modification to limit the GHG bid quantity of an EIM participating resource to the difference between the resource's upper economic limit and the GHG allocation base determined in the first pass solution improves the design of the two pass solution by eliminating the need for additional constraints. However, this approach might not produce accurate results in the case of "California Supply" resources, as "California Supply" resources are contracted to meet specific obligations under contracts with California load-serving entities. ORA appreciates the CAISO's recognition of the need for specific treatment of "California Supply," however, the current proposal might result in unintended limitations to available resources to meet California load. The CAISO should carefully assess the treatment of "California Supply" in the formulation of the two-step solution before implementation as explained below.

In addition, ORA continues to have questions about the implications of the assumptions and restrictions of the proposed optimization on California ratepayers. Some of the key issues that need further assessment and possible revision to the optimization formulations are discussed below.

- **Limiting GHG bid quantities for Contracted Resources**

The CAISO should carefully analyze the risks and potential financial impacts to ratepayers that could result from the proposed second-pass limits to California supply resources, which limit the GHG bids of those resources to the difference between the resource's GHG allocation base determined in the first-pass and the resources' upper economic limit. California's Resource Adequacy (RA) program allows load serving entities (LSEs) to satisfy part of their capacity contract requirements with out-of-state imports. All RA contracts used to meet an LSE's capacity obligations are required to include must offer obligations that require that the resource be available when called upon by the CAISO. The LSEs' capacity contracts pay resources to remain available solely to the CAISO for the quantity under contract. California ratepayer costs include the expenses paid by LSEs for RA capacity commitments which are assessed on a megawatt basis. Therefore, by limiting the capacity bids for contracted resources, ratepayers would potentially lose the value of the contracted resources, and consequently bear the cost of supporting external load (outside California). There could be other market impacts resulting from limiting the available capacity of "California Supply" contracted resources. Therefore, the CAISO should carefully analyze these risks and the cost impacts to ratepayers.

- **Implications of Key Assumptions**

In formulating the two-pass solution, the CAISO includes constraints in the first pass to prohibit transfers from non-CAISO EIM participating resources, except for "California Supply" resources, to California in order to determine the optimal dispatch of non-CAISO resources meeting non-CAISO load.¹¹ However, the formulation of the first pass allows net transfers from California to meet part/all of non-CAISO EIM load.¹² The results of the first-pass depend on

¹¹ CAISO's Revised Draft Final Proposal- Energy Imbalance Market Greenhouse Gas Enhancements, pp. 12-13. Available: <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>.

¹² CAISO's Revised Draft Final Proposal- Energy Imbalance Market Greenhouse Gas Enhancements, pp. 12-13. Available: <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>.

factors associated with California load, such as the magnitude of California load; the capacity of resources located inside California serving California load,-as well as the energy and GHG costs associated with these resources; congestion factors; and GHG-bids (California resources include GHG costs with their energy bids; and GHG bids for non-CAISO resources are set to zero in the first-pass). Although the intent of the first pass is to isolate the effect of California load and determine the dispatch of non-CAISO resources serving non-CAISO EIM load, net transfers from California to serve non-CAISO EIM load are allowed in the first-pass, which affect the dispatch of non-CAISO resources serving non-CAISO EIM load. The effects of these factors make it hard to isolate the incremental dispatch of non-CAISO resources due to California load in the second pass. Therefore, the CAISO should carefully assess the impacts of these factors on the results by running sensitivity analyses.

Since the intended objective of CAISO's two-pass solution is to isolate the effect of California load on the dispatch of out-of-state EIM participating resources serving part of California load , the two-pass solution should be designed to keep all variables constant except California load. ORA recommends that the CAISO conduct sensitivity analyses to assess the impacts of the variables discussed above on the dispatch of resources. ORA recommends that CAISO perform sensitivity analyses to assess the impacts of assumptions used in the formulations of the two pass solution, such as the impacts of allowing net transfers from California to serve non-CAISO load in the first pass, on the results of the two-pass solution. For instance, to isolate the effects of California load on the dispatch of resources; under one scenario, maintain CAISO's current proposal (allowing for net transfers from California to serve non-CAISO load in the first pass); and under a second scenario, set California load to zero in the first pass, and find the optimal dispatch over the CAISO EIM footprint, including all resources (CAISO and non-CAISO).

These sensitivity analyses will help identify the impacts of key variables and assumptions on the accuracy of the results. Such analyses will facilitate the accurate attribution of GHG emissions to non-CAISO resources serving California load, and enable ARB to accurately assign GHG compliance obligations for such resources, under the Cap-and-Trade program. Ultimately, California rate-payers should not be required to subsidize compliance obligations under the Cap-and-Trade program for resources that are not used to meet California's load.

ORA looks forward to the opportunity to review and comment on CAISO's report on the accuracy of GHG attribution under its proposed methodology that will be released the fourth quarter of 2017.

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