

November 27, 2023

VIA ELECTRONIC SUBMISSION

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RE: Comments on Draft Regulations in Electricity Markets Rulemaking (Chapters 173-441 and 173-446 WAC)

The California Independent System Operator Corporation (ISO) submits these comments in response to the Department of Ecology's (Ecology) November 8, 2023 workshop. The ISO offers suggestions for consideration if Ecology pursues an Outstanding Emissions Calculation. Due to the complexity of these topics, the ISO also recommends Ecology hold further discussions with stakeholders through future workshops.

- I. If Ecology pursues an Outstanding Emissions Calculation, the ISO recommends Ecology exclude emissions above the counterfactual and not explicitly consider committed capacity in the calculation.**

The Outstanding Emissions Calculation is a tool used by the California Air Resources Board (CARB) and implemented to account for potential leakage. It takes the difference between total California Western Energy Imbalance Market (WEIM) emissions and the total deemed, or attributed, California WEIM emissions. The difference results in the retirement of a portion of otherwise freely allocated allowances to California utilities. These outstanding emissions are apportioned to WEIM purchasers based on their share of retail sales.

Ecology should consider following the CARB proposed approach of only looking at what is attributed below the counterfactual in the Outstanding Emissions Calculation. Underpinning this proposed calculation are rules the ISO has proposed to use in its

market. The ISO's market rules use a counterfactual to help define how much of a resource's schedule may be attributed to greenhouse gas (GHG) transfers to serve demand in a GHG area. The market accomplishes this by approximating how load outside of a GHG area would be served by the resource without GHG transfers. This serves the purpose of supporting more accurate attribution and thus reducing the effect of potential secondary dispatch.

If a resource receives an attribution below its counterfactual schedule, there is a greater chance of secondary dispatch in which a higher emitting resource "backfills" to serve demand outside of GHG area. A simplifying assumption is that an attribution below a resource's counterfactual schedule results in secondary dispatch and an attribution above a resource's counterfactual schedule does not. As a result, only accounting for emissions that result from attributions below a resource's counterfactual schedule more precisely targets emissions from secondary dispatch, which represent potential emissions leakage. In contrast, including emissions from attributions above a resource's counterfactual schedule does not represent potential leakage and should therefore be excluded.

The example below (Figure 1) illustrates what the Outstanding Emissions Calculation should consider and what it should not. Ignoring cost for simplicity,¹ a 100 MW resource in the non-GHG area (a resource outside of Washington in this example) has a 100 MW energy bid and voluntarily offers a 100 MW GHG bid to Washington. The counterfactual schedule to serve demand in the non-GHG area amounts to 50 MW. The resource receives an 80 MW energy award and a 40 MW GHG award, or attribution. With the 40 MW attribution, only 30 MW is above the counterfactual (as the counterfactual was 50 and we cannot exceed the 80 MW energy award), and therefore 10 MW is below the counterfactual. The 30 MW above the counterfactual does not give rise to secondary dispatch because that generation was optimized to serve the GHG area. However, the 10 MW dispatched below the counterfactual means that 10 MW from the non-GHG area that the resource is coming from may be backfilled and thus has the potential for secondary dispatch.²

¹ The GHG bid is a two part bid: MW amount and \$/MWh. The focus of this example is the quantity, not the price.

² As we do not know if the resource that may be backfilling these 10 MW is a higher emitting resource than the resource serving Washington, we cannot determine with certainty if leakage has occurred.

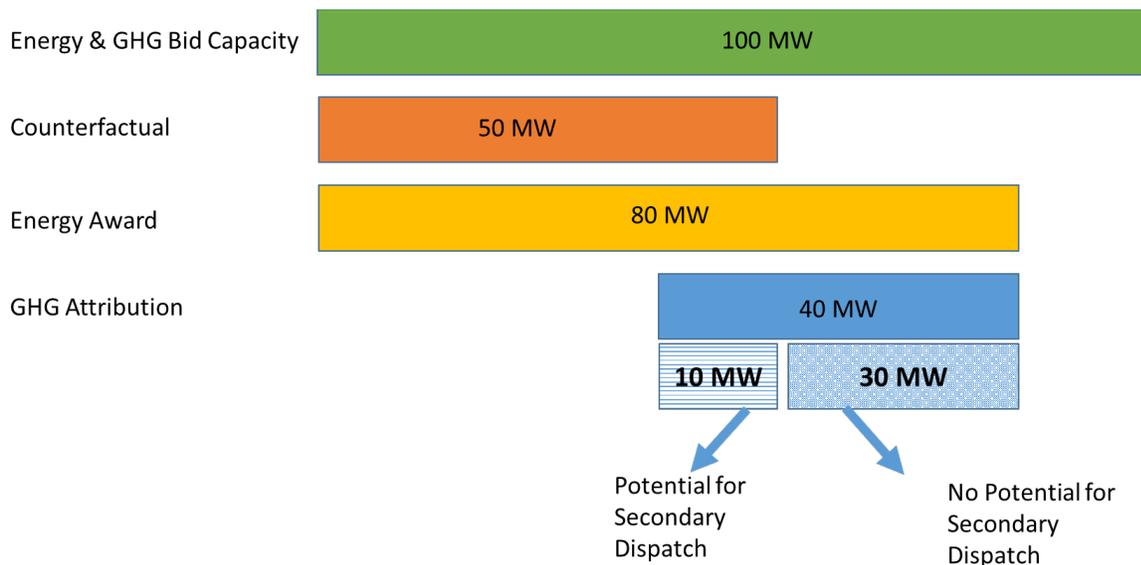


Figure 1.

Additionally, if Ecology pursues an Outstanding Emissions Calculation, Ecology should not explicitly consider committed capacity in the calculation of Outstanding Emissions. Committed capacity in the Extended Day-Ahead Market (EDAM) represents the megawatts of a contracted resource to serve Washington demand and are therefore not intended to serve load outside of Washington.³

Ecology does not need to deviate from CARB’s proposed calculation of Outstanding Emissions because committed capacity is already excluded from the counterfactual or can be factored into the base schedule of resource with committed capacity.⁴ This is because, in EDAM, committed capacity external to the GHG regulation area will still bid in to voluntarily make itself available to the GHG regulation area and will need to be economic in order to be attributed to Washington. It will have a zero value in the GHG reference pass to signal that those MW are not being used to serve native load so that the capacity can be fully attributed to serve demand in a GHG regulation area, if economic. In addition, attribution of this supply to serve demand in the GHG regulation area will not be constrained by the GHG net export constraint. In the WEIM today, the resource’s base schedule can be set to a value such that its committed capacity will not be attributed to serve demand in a GHG regulation area. The same holds true after

³ As a suggested edit, in response to Ecology’s request for feedback on how resources committed to Washington load be treated, the ISO recommends Ecology reframe this question to ask about the megawatts of committed capacity rather than the resource that is committed to Washington. The rationale for this recommendation is contracts can be for a partial resource and therefore the appropriate unit of measure is megawatts.

⁴ The use of counterfactual or base schedule depends on whether the entity participates in the WEIM only, or EDAM.

EDAM has been implemented for resources that are part of balancing areas that choose to only participate in the WEIM.

The simplified example below (Figure 2) highlights how committed capacity is treated. A 100 MW resource outside of Washington has a 100 MW contract with a Washington utility to serve their load. As committed capacity is excluded from the counterfactual, the counterfactual is zero. The resource is economic and receives both an energy award of 100 MW and a GHG attribution of 100 MW. As these MW were never intended to serve non-Washington load, there is no resource that would backfill it. Accordingly, Ecology does not need to deviate from CARB’s proposed calculation of outstanding emissions.

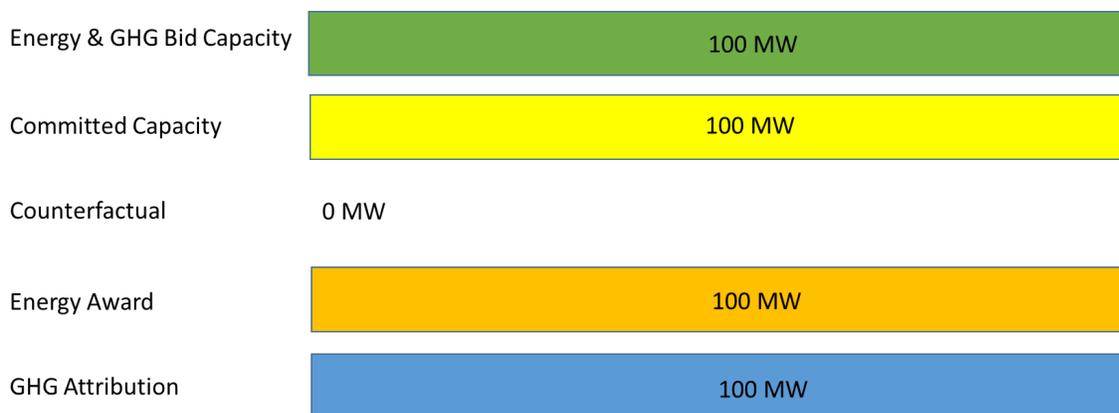


Figure 2.

II. If Ecology moves forward with an Outstanding Emissions Calculation, the ISO recommends Ecology include two equations to reflect the market functionality of two different counterfactuals.

The ISO has two real-time counterfactuals, one for entities in the WEIM only and another for entities that are in both EDAM and the WEIM. For an entity only participating in the WEIM, the counterfactual will continue to reflect the hourly base schedule.⁵ However, for entities that are in EDAM, on a day ahead basis, the ISO will clear hourly schedules in the GHG reference pass based on submitted bids to create an optimized counterfactual.⁶ For EDAM resources, the counterfactual is the difference between the resource’s day-ahead market energy schedule and day-ahead market

⁵ A base schedule is a forward energy schedule from WEIM participating and non-participating resources, with hourly granularity, that is the baseline to measure deviations for settlement through the WEIM. Base schedules include the hourly forecasts of load, hourly generation schedules, and hourly interchange schedules. These base schedules are determined and submitted by the WEIM entity.

⁶ In EDAM, all resources in an EDAM area will submit either economic bids or self-schedules into the market and there is no base scheduling.

GHG award. If a resource's day-ahead energy award is the energy needed to serve demand in both a GHG area and a non-GHG area, and the day-ahead market GHG award is the energy needed to serve demand in a GHG area, the difference between them is the energy needed to serve demand in the non-GHG area. This approach aligns with the fact that the real-time market optimizes resource schedules and determines the final attribution.

If Ecology follows CARB's exploration of only counting attribution below the counterfactual in the Outstanding Emissions Calculation, it will necessitate two Outstanding Emissions Calculations as there are two real-time counterfactuals depending on which market(s) an entity participates in. The recommended equations that would mirror CARB's explored equations include:

- For an Entity that Participates in EDAM and the WEIM: Reported megawatt hours (MWh) limited to the annual generation attributed below the difference between the Day Ahead (DA) energy schedule and DA GHG award
 - $\text{CO}_2 \text{ eEDAM} = \text{MWh below (DA energy schedule - DA GHG award)} \times \text{emissions factor (EF) unspecified} \times \text{transmission loss factor (TLF)}$
- For an Entity that Participates only in the WEIM: Reported MWh limited to the annual generation attributed below the base schedule
 - $\text{CO}_2 \text{ eWEIM} = \text{MWh below base schedule} \times \text{EF unspecified} \times \text{TLF}$

III. Due to the complexity of this topic, the ISO recommends stakeholder workshops.

If Ecology pursues an Outstanding Emissions Calculation, the ISO suggests Ecology schedule additional workshops. These topics are complex. To ensure alignment among Ecology and all stakeholders, workshops offer a venue for stakeholders to present, vet, and review approaches to calculating leakage. The ISO is willing to present at any workshop on information it can make available from EDAM and the WEIM to help account for emissions leakage that may result from the attribution of transfers to resources outside of the State of Washington to serve electric demand in the State of Washington's GHG area.

The ISO appreciates the opportunity to submit comments and to participate in Ecology's stakeholder calls. These are important topics for Ecology to consider and discuss with stakeholders. The ISO looks forward to ongoing discussions with Ecology and other stakeholders in this rulemaking.

Sincerely,

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