



California ISO

EIM Greenhouse Gas Enhancements

CSSA Training

August 16, 2018

Background: EIM Greenhouse Gas Enhancements

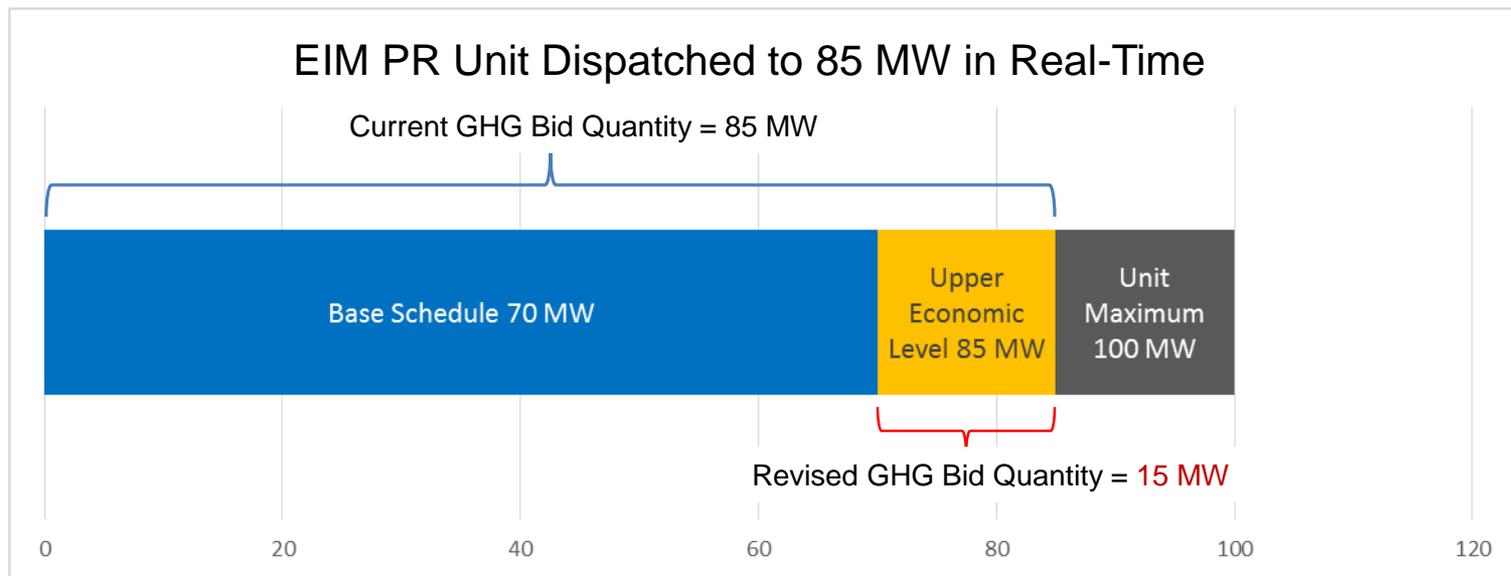
- Energy generated in California or imported into the state to serve California load is subject to California's greenhouse gas (GHG) regulations adopted by the Air Resources Board (ARB).
- Mechanisms to accurately reflect GHG compliance costs to address ARB's regulations have evolved since the start of EIM.
- Over the last year and half, the CAISO has worked with ARB and stakeholders to address concerns with minimum bid prices and secondary dispatch.

Background: EIM Greenhouse Gas Enhancements

- Based on stakeholder feedback, the CAISO has eliminated minimum bid price considerations from this proposal.
- The CAISO will continue to insure that the CAISO GHG design provides full cost recovery of ARB compliance costs for first deliverers of electricity to the CAISO as identified by the EIM optimization.
- Day-ahead GHG design will be discussed further in the CAISO's EIM entities day-ahead extension stakeholder initiative.

Revised Proposal: EIM Greenhouse Gas Enhancements

The CAISO's revised proposal limits the GHG bid quantity of EIM participating resources to the MW value between the EIM participating resource's base schedule and the resources upper economic level.



Revised Proposal: EIM Greenhouse Gas Enhancements

This proposal reduces secondary dispatches, but does not eliminate them.

- Under the current EIM rules a resource could submit a GHG bid quantity of 85 MW, and all 85 MW could be attributed as serving CAISO load.
- Under the revised proposal, the EIM optimization would limit the resource's GHG bid quantity to 15 MW, and if the EIM optimization dispatched the resource to 85 MW, that 15 MW could be attributed as serving CAISO load.

Revised Proposal: EIM Greenhouse Gas Enhancements

Example A

- Since the resource increased 15MW from its base schedule, no secondary dispatch is associated with that 15MW.
- In this case, the potential secondary dispatch effect would be 0 MW (i.e. the resource's GHG bid quantity less the amount of that quantity that is allocated to the resource's base schedule):

$$15 \text{ MW} - 15 \text{ MW} = 0 \text{ MW}$$

Revised Proposal: EIM Greenhouse Gas Enhancements

Example B

- If the resource had only increased 10 MW from its base schedule to 80MW, no secondary dispatch would be associated with that 10MW.
- In this case, the potential secondary dispatch effect would be 5 MW (i.e. the resource's GHG bid quantity less the amount of that quantity that is allocated to the resource's base schedule):

$$15 \text{ MW} - 10 \text{ MW} = 5 \text{ MW}$$

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- Questions?