PUGET SOUND ENERGY COMMENTS REGIONAL INTEGRATION CALIFORNIA GREENHOUSE GAS COMPLIANCE AND EIM GREENHOUSE GAS ENHANCEMENT STRAW PROPOSAL December 7, 2016

Puget Sound Energy (PSE) appreciates the opportunity to provide comments for consideration by the California Independent System Operator (ISO). These comments are based on the Regional Integration California Greenhouse Gas Compliance and EIM Greenhouse Gas Enhancement Straw Proposal, ISO stakeholder meeting on December 1, 2016, and the illustrative model provided in an Excel spreadsheet.

A. COMMENTS

1. PSE Supports Implementation of "Option 2" that will Modify the ISO Optimization to Address the California Air Regulation Board's (CARB's) GHG Concerns.

PSE supports the implementation of Option 2 that will modify the ISO optimization to attribute GHG costs to resources that are incrementally dispatched to serve load in California while maintaining resource-specific cost and attribution. As we noted in prior comments submitted with other EIM Entities to the ISO¹, PSE was previously supportive of Option 2, but we had concerns about Option 3 that would have implemented a residual hurdle rate in the EIM. We also supported Option 1 that would calculate the overall GHG impact based on counter-factual dispatch outside the market optimization and would continue to support this option, should it satisfy the regulatory needs of CARB.

Option 2 proposes a "two-pass" solution in the market optimization that will result in the attribution of transfers to the specific resources that are incrementally dispatched to support California load. This will address CARB's concerns about secondary dispatch GHG emissions that they believe are currently unaccounted for in the current optimization model. We generally support Option 2 to address CARB's concerns. However, it is unclear if this approach would have negative impacts to the current EIM optimization model. We would ask that the ISO address risk to EIM efficiency and market performance in its next draft Straw Proposal if Option 2 is implemented.

The ISO has also expressed concerns about implementing Option 2 in the Fifteen Minute Market (FMM) and Real Time Dispatch (RTD) because of computing constraints². The ISO has proposed a set of approximations on the first pass to simplify the calculations. These

¹ Joint Comments of the EIM Entities, Regional Greenhouse Gas Initiative Technical Workshop, October 27, 2016

² Regional Integration California Greenhouse Gas Compliance and EIM Greenhouse Gas Enhancement Straw Proposal, November 17, 2016, p. 15.

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simplifications include using the unit commitment status from the prior FMM run, relaxing ramp constraints, calculating the advisory GHG allocation base without network constraints, and staggering the FMM and RTD runs. We are supportive of these approaches to simplify the first pass. However, PSE requests that the ISO provide clarity on what it will mean to ignore network constraints when calculating the advisory GHG allocation base. Please analyze and explain whether this could disproportionately impact EIM Entities that have more frequent constraints in their transmission path to the market.

We have similar concerns to the ISO about computing constraints and short time frames to complete these two-pass runs in the ISO optimization model. We would ask the ISO to address if the addition of this two-pass run could limit future beneficial additions to the optimization model, including those in the proposed 2017 CAISO stakeholder initiative for real-time market enhancements.

2. PSE Supports a Bridge Solution with the ISO and CARB

PSE supports the development of a bridge solution to address CARB's concerns in the EIM while the two-pass solution is fully developed, tested, and implemented. We understand that the ISO's proposed Option 2 cannot be implemented in time to meet the January 1, 2018 compliance date for CARB's proposed amendments to their GHG regulations. This bridge solution should provide only a temporary solution that can be implemented while the ISO works to successfully implement the two-pass solution in the EIM. However, PSE supports this bridge should the ISO provide a clear timeline for when Option 2 will be implemented in the EIM, and ensure the solution is comparable to Option 2 in its effects on the EIM. (For instance, utilizing Option 3 while Option 2 is implemented would not provide a comparable solution and PSE would not support the implementation of a hurdle rate in the EIM as a bridge solution or otherwise.)

3. Multi-State GHG Regime Implementation

PSE supports the approach that CAISO has proposed in the multi-state GHG regime implementation. It is difficult to forecast the future GHG regulatory regimes that could be implemented throughout a multi-state ISO, but there are sufficient details in the straw proposal to understand how a cap-and-trade or carbon tax could be implemented in a regional ISO. PSE is concerned with the potential for "double-counting" of compliance obligations for GHG emissions if states have overlapping regulations for imports and exports. We understand that the ISO is not responsible for resolving conflicting GHG regimes that could result in "double-counting." However, the ISO is in the unique position of understanding this issue in a regional ISO and the EIM. We would ask for the ISO's support in consulting with various state environmental regulators to educate them about the regional ISO and EIM, and to advocate for GHG regulations that do not result in "double-counting" of GHG emissions.

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In the multi-state GHG proposal, it is unclear how the implementation of GHG regimes in the EIM will occur. The proposal is mainly focused on a multi-state ISO. PSE would ask that the ISO clarify the processes and approaches to implementation of future GHG regime changes in the EIM.

The GHG proposal notes that "Currently in the West, only California has a GHG regime."³ We want to note that the Washington State Clean Air Rule (CAR) will take effect on January 1, 2017. The CAR places emissions caps on Washington State thermal generating units, a compliance obligation for emissions above the caps, and will affect multiple EIM Entities, PSE and PacifiCorp. The ISO notes in the end of Section 6.3^4 that for new GHG regimes that only place compliance obligations on generation located within its own state, that their compliance costs California could be reflected in the resources' energy bids. Entities subject to CAR would likely take this approach by reflecting their emissions compliance costs by increasing their energy bid. They would also separately include GHG costs for California cap and trade compliance in its GHG adder if allowing imports to California.⁵ PSE requests that CAISO be explicit about how these overlapping costs could be reflected in the market to ensure the EIM Entities and DMM are comfortable with the approach to address potential "double-counting" of GHG compliance obligations in the market. This will be helpful given that half of the EIM Entities could have a double-counting concern as early as next month in the current market for Washington State thermal generating units that produce over the CAR cap and have power imported to California.

B. CONCLUSION

PSE is grateful for the opportunity to submit these comments and appreciates the ISO's consideration.

³ Ibid, p. 20.

⁴ IBID, p. 20.

⁵ The Power Point Presentation- Regional Integration Greenhouse Gas Compliance, December 1, 2016, slide 32, infers this solution. PSE would appreciate CAISO ensuring DMM's support of this proposal and clarifying this approach in its Draft Final Proposal.