

**PACIFICORP'S COMMENTS
ON THE 2nd REVISED STRAW PROPOSAL
July 26, 2013**

I. INTRODUCTION

Pursuant to the schedule established by the California Independent System Operator (“ISO”) for its Energy Imbalance Market (“EIM”) Stakeholder Process, PacifiCorp submits the following comments to the ISO on the 2nd Revised Straw Proposal dated July 2, 2013 (“2nd Revised Proposal”). PacifiCorp has been an active participant in the ISO’s Stakeholder Process, including submitting comments April 19, 2013, to the ISO’s Initial Straw Proposal, and June 14, 2013, to the ISO’s 1st Revised Straw Proposal. PacifiCorp appreciates the ISO’s consideration of all stakeholder comments to date and these comments are offered in the spirit of further achieving the development of robust and effective EIM market rules and practices.

In its comments on the Initial and 1st Revised Straw Proposals, PacifiCorp raised a number of issues and comments, many of which are addressed or resolved in the 2nd Revised Proposal. To the extent PacifiCorp raised issues in prior comments that are not addressed in the 2nd Revised Proposal, PacifiCorp does not repeat them here. In doing so, PacifiCorp acknowledges the ongoing nature of the issues addressed herein and reserves the right to supplement, modify, amend, or otherwise present additional comments at a future time, as permitted. In addition, PacifiCorp respectfully requests that the ISO or interested stakeholders not perceive the absence of comments on any particular question, issue or other matter as a conclusive indication of PacifiCorp’s lack of interest, support or opposition with respect thereto.

In Part II of these comments, PacifiCorp presents summary comments on eight key issues:

- A. Uplift Allocation
- B. Interaction Between Order 764 15-Minute Market and EIM
- C. Local Market Power Mitigation
- D. Resource Sufficiency and Proposed Design Elements
- E. Unit Commitment
- F. 60-Minutes versus 15-Minute Base Schedules
- G. Greenhouse Gas Proposal
- H. EIM Charges

PacifiCorp appreciates the ISO’s ongoing efforts with respect to the development of the 2nd Revised Proposal including the ISO’s flexibility and responsiveness to comments made by PacifiCorp and other parties. PacifiCorp has found the ISO’s stakeholder process to be collaborative and effective and expects that this process will significantly contribute to the efficient and successful development of an EIM. As a way to continue to improve the stakeholder process, PacifiCorp proposes that the ISO include more detailed examples in future straw proposals on key topics and schedule technical workshops as part of the stakeholder

process to review the implementation of various related concepts, such as those related to uplift allocations and greenhouse gas emissions.

II. COMMENTS ON KEY ISSUES

A. Uplift Allocation

Conceptually, PacifiCorp agrees with the treatment of offsets and uplift allocations in the 2nd Revised Proposal, namely, seeking to isolate offsets and allocation by Balancing Authority Area ("BAA"), and allow EIM Entities to be responsible for developing their own allocation methodologies for their BAA share of neutrality accounts or uplifts. However, given the complexity of the allocation of the four real-time market uplifts, further research is warranted to ensure that the processes and calculations outlined in the 2nd Revised Proposal accomplish their intended results. Therefore, PacifiCorp may have additional comments and suggested modifications associated with these charges and calculations in response to future versions of the straw proposal. As mentioned above, the topic of uplift allocation is one that would benefit from more specific and detailed technical examples as well as a workshop dedicated to the review of those examples.

B. Interaction Between Order 764 15-Minute Market and EIM

The 2nd Revised Proposal frequently refers to the ISO's EIM model leveraging the pending addition of a real-time 15-minute market, currently under development by the ISO for purposes of compliance with Federal Energy Regulatory Commission ("FERC") Order 764. However, the straw proposal should clarify that implementation of the Order 764 15-minute market is separate and distinct from EIM and that EIM Entities will have the discretion to determine participation in the Order 764 15-minute market at their own BAA boundaries.

The revised definition of EIM Participating Resource states that "in the 15-minute market, imports and exports that can be scheduled on a 15-minute basis are eligible to participate in addition to all resource eligible to participate in the 5-minute market." Section 3.2 of the 2nd Revised Proposal further states that this applies to imports and exports to the EIM Entity Area from other BAAs and Section 3.3.10 states that if the EIM Entity and a neighboring BAA both support 15-minute intertie scheduling in support of Order 764, participation in the EIM at the intertie between the EIM BAA and a neighboring BAA may occur.

PacifiCorp requests that the ISO clarify that participation in the EIM does not dictate how the EIM Entity will comply with Order 764. Participation in the Order 764 15-minute market at the intertie between an EIM BAA and a neighboring (non-EIM Entity) BAA should only occur if supported by the EIM Entity and neighboring non-EIM BAA. EIM Entities may choose to limit the scope of changes to those BAAs participating in the EIM and not expand the boundaries of the ISO's proposed Order 764 15-minute market. This approach is more appropriate because it will serve to encourage other BAAs to join the EIM rather than to seek benefits without committing to participate. This discretion is similar to the responsibilities of the EIM Entity to develop appropriate rules regarding transmission service requirements for eligibility of EIM

Participating Resources, what types of charges are appropriate to pass on for EIM related services, and how EIM imbalance and other costs are to be allocated within the BAA.

C. Local Market Power Mitigation

The 2nd Revised Proposal is clear that based on the ISO's review of the initial implementation of the EIM with PacifiCorp, it will be unnecessary or inappropriate to mitigate import or export bids for congestion on scheduling limit constraints between BAAs. Further, under the 2nd Revised Proposal these constraints are deemed to be competitive under the ISO's current local market power mitigation ("LMPM") provisions.

PacifiCorp supports the ISO's LMPM proposal provided that, as proposed, there will be no mitigation of bids across EIM Entity interfaces (*e.g.*, between PACW and PACE), as between each EIM Entity or as between an EIM Entity and the ISO. PacifiCorp supports the proposed dynamic competitive path assessment for the EIM because, as PacifiCorp understands it, the competitive path assessment has been in place since 2011 and appears to be an effective method of identifying whether a particular path is competitive due to the number of resources controlling flows on that path. PacifiCorp also agrees that the net buyer or seller tests should not apply in the EIM because during any day, hour, or dispatch period an EIM Entity could be a seller or buyer and therefore benefit from high prices or low prices at different times. PacifiCorp also agrees that the proposed default energy bids should allow for appropriate cost recovery and flexibility consistent with the overall intent of the EIM.

D. Resource Sufficiency and Proposed Design Elements

PacifiCorp strongly supports the elimination of the adjusted base schedule process and associated minimum shift optimization. The design elements proposed by the ISO in lieu of adjusted base schedules are sufficient to meet the objective of feasible schedules and address leaning, yet avoid significant concerns raised in prior comments associated with the minimum shift optimization. In particular, PacifiCorp supports the move away from allocating costs to EIM Entities associated with the ISO's procurement of additional capacity to manage ramping needs. Though generally in support of the flexible ramping requirement (including both an upward and, eventually, a downward requirement) and the development of a flexible ramping product, PacifiCorp offers the below thoughts and questions on these two components of the ISO's design elements.

Flexible Ramping Requirement

PacifiCorp recommends that the upcoming 3rd Revised Straw Proposal include additional information regarding the test for flexible ramping requirements. PacifiCorp understands that, currently, the ISO applies subjective operator judgment in implementation of its existing flexible ramping constraint and that the requirements for upward flexi-ramping capacity in real-time consist of a base requirement of 300 MW, a normal range of 300 MW to 600 MW and a maximum of 1,000 MW.¹ PacifiCorp understands that MW hour requirements for upward

¹ Operating Procedure 2250, section 3.1.

ramping capacity will similarly be developed and apply to each EIM Entity BAA based on the characteristics of each balancing area. If this is the case, PacifiCorp requests that the 3rd Revised Straw Proposal confirm this point.

PacifiCorp recommends that the 3rd Revised Straw Proposal include information regarding: (1) whether the requirements will be set based on an objective test or a subjective test; (2) if it is to be an objective test, how it will be set and whether the same criteria apply to both the ISO and EIM Entity, and (3) if the test is to include subjective elements, how an EIM Entity will be given an opportunity to advise on any assumptions used in the test.

Flexible Ramping Product

PacifiCorp supports the development of the Flexible Ramping Product. PacifiCorp understands that the flexible ramping product will need to be integrated into the EIM market design. Importantly, and consistent with the parameters of the flexible ramping constraint being developed for initial EIM implementation, there must be an opportunity for EIM Entities to continue to self supply ramping requirements, with or without participating in the ISO day-ahead process. PacifiCorp will continue to work with the ISO and other stakeholders on the design of the flexible ramping product and its integration into the EIM.

E. Unit Commitment

PacifiCorp continues to evaluate whether it is appropriate for all EIM Entities to participate in the unit commitment of resources in the 15-minute Real Time Unit Commitment market. Although this requirement may eliminate an important seams issue, the costs and benefits associated with an EIM Entity's participation in unit commitment are not yet clear, and require further assessment and evaluation. PacifiCorp will continue to evaluate and provide further comment on this issue, as necessary, in response to future revisions of the straw proposal. In any event, costs associated with unit commitment in the ISO or another EIM Entity should be limited to transfers into the EIM Entity paying the costs.

F. Hourly versus 15-Minute Base Schedule

In section 3.3.2 of the 2nd Revised Proposal, the ISO indicates that hourly base schedules may be more appropriate for establishing the starting point of the EIM. PacifiCorp supports the use of hourly base schedules in lieu of 15-minute base schedules for purposes of the EIM. PacifiCorp understands that this could result in lower operational risk and implementation cost as well as the potential for greater imbalance volumes and associated uplift costs for the EIM Entity. However, this proposal removes a potential seam issue with the ISO's existing hourly market, which is important to resolve to facilitate an effective EIM.

EIM Entities may benefit from 15-minute adjustments to supply to hourly base schedules to meet the same hourly demand. PacifiCorp requests confirmation that the 15-minute updates would not represent financially binding base schedules and would not impact the balanced schedule and flexible ramping constraint requirements.

PacifiCorp requests that the ISO clarify the conditions under which hourly base schedules would apply, including whether all EIM Entities will be required to use the same time increment, and whether a transition to 15-minute base schedules would be allowed for all EIM Entities and under what conditions.

PacifiCorp notes that, if the ISO adopts hourly base schedules, the 2nd Revised Proposal should be closely reviewed for references to 15-minute base schedules to reduce confusion in future versions.

G. Greenhouse Gas Proposal

PacifiCorp supports the ISO's proposal with respect to its treatment of greenhouse gas ("GHG") costs, subject to the concerns noted below. PacifiCorp suggests that the ISO's GHG proposal be modified to allow each EIM Participating Resource to calculate and submit, via its EIM Participating Resource Scheduling Coordinator, its own GHG cost added for each resource based on that resource's emission factor and the estimated CO₂ cost as part of its bid. This allows each EIM Participating Resource to decide how it will meet its compliance obligations. This also relieves the ISO from the responsibility of calculating and maintaining each resource's GHG cost and appropriately places responsibility for compliance with the California Air Resources Board ("ARB") Cap-and-Trade program with each individual EIM Participating Resource.

PacifiCorp also supports the ISO's efforts to coordinate with the ARB with respect to the EIM Participating Resource obligations that may arise under ARB's Mandatory Reporting Rule ("MRR") or its Cap-and-Trade program. In particular, PacifiCorp supports efforts to identify areas of the ARB's regulations that may require modification to most effectively implement the ISO's GHG proposal.

However, in the 3rd Revised Straw Proposal the ISO should be more explicit regarding the potential that EIM Participating Resources will incur MRR or Cap-and-Trade compliance obligations by virtue of their participation in the EIM. In its proposal, the ISO only briefly reviews the ARB's programmatic requirements. However, rather than setting forth the ARB's requirements, the 3rd Revised Straw Proposal should clearly direct interested parties to the ARB's regulations so that the requirements may be understood by those parties.

Furthermore, because bids into the EIM from Participating Resources are resource-specific, the proposal should emphasize the GHG cost established for each EIM Participating Resource should be resource-specific as opposed to being based on a default or "system" emission factor. Under the ISO's proposal, each individual resource will be dispatched based on its bid cost plus the GHG cost. In addition, PacifiCorp understands that the ISO will have the ability to identify the quantity of imports into California, as well as each participating resource's contribution to those imports. Under ARB's regulations, the default emission factor (or to-be-developed system emission factors) only applies to unspecified resources. In the case of EIM, all resources are specified; therefore, resource specific emission factors should apply.

H. EIM Charges

PacifiCorp again requests that the ISO include in the 3rd Revised Straw Proposal a section that sets forth a comprehensive list of all charges applicable to EIM Participating Resource's and the EIM Entity. This information is critical for purposes of system design, billing determinants, and setting expectations for potential participating resources.

III. COMMENTS

Section 2.3. Resource Sufficiency and Proposed Design Elements

As noted by the ISO, the 2nd Revised Proposal continues to reference adjusted based schedules and feasibility requirements. PacifiCorp understands that, if this proposal is adopted, the 3rd Revised Straw Proposal will not contain these references.

Section 3.1.4. Role as EIM Entity Scheduling Coordinator

In addition to submitting load, resource and interchange forecasts, the EIM Entity must submit the amount of transmission capability available to the Real-Time Unit Commitment ("RTUC") and Real-Time Dispatch ("RTD"), which may change as often as hourly.

Section 3.2. EIM Processes

PacifiCorp requests that the ISO modify its proposal to indicate which resources responding to exceptional dispatch are reported to the Market Operator by the EIM Entity Scheduling Coordinator and which are reported by the EIM Participating Resource Scheduling Coordinator.

Language suggesting feasibility requirements should be revised if adjusted base schedules are no longer required.

Section 3.3.3.EIM Entity Scheduling Coordinator Demand Forecasting

PacifiCorp requests that ISO clarify that if the EIM Entity Scheduling Coordinator elects to adopt the Market Operator demand forecast for the EIM Entity BAA that any Load Aggregation Points in the EIM Entity BAA also will be required to use the Market Operator demand forecast.

Section 3.3.5.2 Charges for Over-Scheduling

PacifiCorp understands that currently no over-scheduling charges are proposed. The ISO is evaluating whether additional measures are needed to prevent BAAs from leaning to resolve over-generation. PacifiCorp supports this approach.

Section 3.3.7. Supply Adequacy and Resource Scheduling Requirements

PacifiCorp requests that the ISO clarify that EIM Entities will determine the rules and procedures for participation of dynamic transfers associated with their BAA boundaries.

The 2nd Revised Straw Proposal states that the EIM Entity Scheduling Coordinator will “create and process” e-Tags for bilateral schedules between BAAs. PacifiCorp requests this be clarified to indicate that the EIM Entity Scheduling Coordinator will be responsible for *ensuring* that e-Tags are created and processed, in recognition that it may not be the EIM Entity Scheduling Coordinator creating each e-Tag.

Section 3.4.2. Congestion Management

The 2nd Revised Proposal states that EIM Participating Resource Scheduling Coordinators must submit energy bids with sufficient generating capacity in EIM to enable efficient congestion management on these constraints. PacifiCorp requests that the ISO clarify that this statement is intended to mean that the EIM Entity will have difficulty meeting the flexible resource constraint if there are limited participating resources, and that the statement does not constitute a must offer requirement.

3.6.4. Seams Coordination and Interaction with WECC Congestion Management

For clarity, PacifiCorp requests that the proposal state the “participating market or non-market system operators” as EIM Entities and non-EIM Entities.

PacifiCorp requests that the proposal clarify that the WECC Enhanced Curtailment Calculator (“ECC”) has not been implemented. The last paragraph of 3.6.4 describes how the Participating Resources Scheduling Coordinators will receive ECC notifications through ADS, but it needs to be clear that if there is no ECC, it should be clear that there will be no requirements of the Participating Resource Scheduling Coordinator.

IV. ADDITIONAL ISSUES AND QUESTIONS

Section 2.3. Resource Sufficiency and Proposed Design Elements and Section 3.6.1 Ancillary Services

Change “resource sharing groups” to “reserve sharing groups.”

Section 3.3.1. Registration of market Resources (Master File)

The ISO should clarify why minimum, maximum, and ramp rate data are needed for non-participating resources. It is unclear why this information would be needed from non-participating resources as those resources will not be dispatched in the EIM. Even if only submitted once and updated as needed, this information is burdensome to maintain and update. Accordingly, if it is unnecessary it should not be required.

Section 3.3.11. Load Aggregation Points (“LAPs”)

PacifiCorp requests that the ISO clarify whether there is flexibility to add LAPs after go-live, and if so, the process and timing for doing so.

Section 3.3.13. Generation and Transmission Outages (“OMS”, “SLIC”)

The 3rd Revised Straw Proposal should also include reporting responsibilities of non-participating resources in this section.

PacifiCorp requests clarification on the timeframe for submitting outages. This section references the ISO's tariff; however, PacifiCorp prefers a 30 minute requirement as stated in the 2nd Revised Proposal.

3.7.4. Unaccounted for Energy (“UFE”)

This is the only section where the Utility Distribution Company (“UDC”) terminology is used as something that exists within the EIM Entity BAA. There is no other discussion in the 2nd Revised Proposal about how UDC's would be defined or why they are relevant for the EIM BAA. Can UFE and neutrality be described as being aspects of LAP's rather than UDC's?

V. CONCLUSION

PacifiCorp appreciates the ongoing efforts of the ISO management and staff to develop the EIM in a timely manner and in accordance with the principles in the Implementation Agreement. PacifiCorp's comments are intended to: (1) focus on critical issues related to the market design; (2) identify areas where PacifiCorp needs additional explanation or data to understand the ISO's proposal; and (3) provide specific proposed changes to improve the next iteration of the Straw Proposal. PacifiCorp will continue to be an active participant in the EIM stakeholder process and undertake the necessary activities to be able to support startup of the EIM October 1, 2014.