

## Stakeholder Comments

### **Energy Imbalance Market Design Straw Proposal and Issue Paper issued April 4, 2013**

<b>Submitted by</b>	<b>Company</b>	<b>Date Submitted</b>
Paul Nelson – (626) 302-4814 Jeff Nelson – (626) 302-4834	Southern California Edison	April 19, 2013

The following are Southern California Edison's (SCE) comments on the California Independent System Operator's (CAISO) Design Straw Proposal and Issue Paper for an Energy Imbalance Market (EIM) issued on April 4, 2013.<sup>1</sup> SCE shares the CAISO's goal to create a robust set of rules and processes for other balancing authorities (BA) to participate in a combined EIM that can result in operational and cost benefits to all parties. With a growing share of variable energy resources (VER), the ability to use a wider generation fleet to integrate VERs is worth investigating as it can create societal benefits.

In the very short time to provide comments, SCE submits a list of questions to better understand the first straw proposal. SCE plans to submit additional question as it investigates the impacts of how EIM will integrate into a complex CAISO energy market and also comply with California's greenhouse gas (GHG) compliance rules.

SCE has the following questions regarding the proposal:

#### **1. Compliance with California GHG Regulations**

The EIM process needs to comply with California GHG regulations and appropriately assign the compliance costs in market settlements. At the stakeholder meeting the CAISO mentioned they are working with California Air Resources Board (CARB) to make sure the proposal is compliant. This coordination with CARB should continue. Based on the limited details that have been shared so far, SCE has a set of initial questions with regards to GHG treatment within the EIM.

---

<sup>1</sup> [http://www.aiso.com/Documents/DesignStrawProposal-IssuePaper-EnergyImbalanceMarket\\_040413.pdf](http://www.aiso.com/Documents/DesignStrawProposal-IssuePaper-EnergyImbalanceMarket_040413.pdf). In addition, the CAISO held a meeting on April 11, to review the proposal with the following presentation: [http://www.aiso.com/Documents/AgendaPresentation\\_DesignStrawProposalIssuePaperEnergyImbalanceMarket\\_04112013.pdf](http://www.aiso.com/Documents/AgendaPresentation_DesignStrawProposalIssuePaperEnergyImbalanceMarket_04112013.pdf)

**a. Market Optimization / Modeling**

SCE would like more detail on how GHG will be accounted for in the Market Operator’s modeling. The CAISO states that there will be a GHG emission cost adder within the RTUC and RTD objective function to account for compliance costs. SCE would appreciate more specific detail on how exactly this adder will be included in the CAISO’s market models.

- i. For example, how would it treat resources located in California but within an EIM entity (outside CAISO BAA): would they be assumed to already include a GHG adder in their bid, or would they be treated same as any other generator within that EIM entity?
- ii. How will shift factors/flows to CA be incorporated?

**b. Market Signals / Prices**

- i. How will the GHG cost be included in bids, prices, and market signals? Will there be two different marginal costs of energy (MCE) components, one for California (CAISO and PacifiCorp area within CA) and one for non-California areas (PacifiCorp area outside of CA)?

In the straw proposal, the CAISO mentions that in order to ensure recovery of GHG emissions costs by EIM resources and imports that clear RTUC and RTD they would likely charge uplift to metered load in the CAISO.<sup>2</sup> While it makes sense that the EIM related GHG costs need to be recouped, SCE does not understand why there would be a need for uplifts to load. If the GHG cost is included in the optimization, then the CAISO’s LMPs will already reflect this cost and any load or generation deviations from 15-minute market would be exposed to these 5-minute RT prices. Therefore, there would be no GHG specific under-collection and no need for any new uplifts to load. Furthermore, it is not clear why this uplift would be paid by load only. Any deviation, generation or load, could cause a change in the EIM imports or exports. Thus, any such uplifts should be charged to all 5-min negative deviators, since they all cause and/or benefit from EIM imports.

**c. Operational Details**

The identity of the purchasing-selling entity (PSE) is important as the PSE is responsible for procuring GHG allowances.

---

<sup>2</sup> [http://www.caiso.com/Documents/DesignStrawProposal-IssuePaper-EnergyImbalanceMarket\\_040413.pdf](http://www.caiso.com/Documents/DesignStrawProposal-IssuePaper-EnergyImbalanceMarket_040413.pdf), Page 49.

- i. Who will be the purchasing-selling entity (PSE) on the EIM related e-Tags?
- ii. Can the CAISO be the PSE on the EIM eTags?
- iii. Who will be responsible for submitting these e-Tags?
- iv. Where will be the sink and source locations on these E-tags?<sup>3</sup>
- v. What role will the CASIO have in determining the flow from a PacifiCorp generator into California, and in turn, tagging the transaction for GHG compliance?

**d. Settlement Details**

The EIM will have to ensure that whoever is responsible for procuring the incremental GHG allowances for import to CA is properly compensated, and that the parties causing and/or benefitting from these imports are paying their share based on cost-causation principles.

**2. Details of the Adjusted and Final Awarded 15 minute Schedule**

- a. What is modeled in the minimum shift optimization (MSO)?<sup>4</sup> Is it just PacifiCorp or a combined PacifiCorp and CAISO?
  - i. What is allowed to change in the MSO process and what is constant?
  - ii. Can the CAISO deny a generation outage in PacifiCorp? Can the CAISO deny a transmission outage in PacifiCorp?
  - iii. Under what circumstances can the CAISO alter an economic PacifiCorp generation base schedule to resolve a problem? Under what circumstances can the CAISO alter a non-economic (self-schedule) PacifiCorp generation base schedule to resolve a problem?
  - iv. What if an adjusted base schedule cannot be found to solve the problem of feasibility? What is the next step and what are the consequences?
  - v. How often does the MSO process run, every 15 minutes, hourly, or something else?
- b. Does the optimization process creating the EIM 15 minute schedule include only PacifiCorp or it is a combined PacifiCorp and CAISO?
  - i. Is it a joint or local BA optimization?
  - ii. Does the EIM process run with the CAISO 15-minute process? If the same software process is used, will the CAISO produce 15-minute non-binding prices for the EIM 15-minute schedules? If so, will the CAISO publish these non-binding prices?
  - iii. Assume the following: A quick start peaker submits a Base Schedule showing 0 MW output (i.e. the peaker is off). After the MSO it still has an Adjusted Base Schedule of 0 MW (it is still off). The unit then enters the EIM 15-minute Interval process. Question: Can the peaker receive a 15-minute schedule that is **not** 0 MW?

---

<sup>3</sup> The sink and source is important given that is how CARB determines if electricity was imported or exported from California, which in turn determines the owner of the GHG obligation.

<sup>4</sup> EIM Process Overview Visual, slide 4.

- iv. Please explain what an EIM “advisory commitment” is? What process is used to create this (e.g. the 5-hour RTUC look-ahead process, the 15-minute EIM, other process)? How will the CAISO know if the “advisory commitment” is either accepted or rejected by PacifiCorp? How will the CAISO pass the accepted/rejected state into the optimization process to ensure the optimization properly models the commitment status, start-times, ramp-time in to other forward looking aspects of the optimization? What happens if, for example, PacifiCorp indicates they “accept” the commitment and instead do not commit the unit? How will PacifiCorp communicate commitment decisions it makes independent of the CAISO so that the CAISO can accurately model such actions in the optimization?
- c. Please confirm that the 5 minute EIM is a combined integrated process that includes all aspects of the CAISO and PacifiCorp transmission and generation system (rather than two separate local optimizations).
- d. Will units in PacifiCorp be allowed to sell Ancillary Services to the CAISO as part of the 15-minute process?

### **3. Settlements**

- a. Please provide a more detailed explanation of how uplifts could be created if PacifiCorp over/underschedules relative to its Adjusted Base Schedules.
- b. How are the deviations of non-economic (self-schedules) scheduled generation settled? Are the settlements for deviations from all PacifiCorp generation treated the same (irrespective of if they are economically bid or self-scheduled?)
- c. Does the EIM allow any load or generation in PacifiCorp to avoid the 5 minute LMP settlement? If yes, how can the CAISO be assured of revenue sufficiency?
- d. What role does PacifiCorp play in determining real-time prices for Load and Generation within its area?
- e. Slide 10 on the process handout. Why is Adjusted Base Schedule an input into the EIM settlement?
- f. Can an EIM participant switch when they submit a self-schedule or EIM bid?

### **4. Initial Fee and Operating Cost Charges**

- a. What functions are included in the operating charge (\$0.19/MWh)?
- b. Are overheads allocated in the operating cost charge? If so how?
- c. How will under collections be handled (for both initial fee and operating cost)?
- d. Will the EIM increase the CAISO’s grid management charge?

### **5. Unit Commitment**

- a. Why is the CAISO limiting commitment in the 15-minute process to units within the CAISO within the 15 minute optimization?
- b. Will the design allow the CAISO to commit CAISO units in order to serve PacifiCorp load? If yes, can this commitment happen simply based on forward forecasts (e.g. the CAISO’s load forecast for PacifiCorp three hours forward) or will it be limited to simply addressing 15 minute issues resulting from the Adjusted Base Schedule? How will PacifiCorp share in any potential bid cost recovery uplift for such commitments?

**6. EIM Transmission Costs**

SCE is concerned that the current plan of free transmission creates improper incentives between 15 minute market participation and EIM participation.

- a. Does the current plan of free transmission create bad incentives between 15 minute and EIM participation?
- b. If “free transmission” is simply a pilot/transition mechanism, what is the plan/process to develop a durable solution?

**7. Network Model Detail**

- a. What level of detail will the CAISO model for a joining EIM entity? Is it the same standard used for the CAISO balance area or is it different?
- b. What if there is a disconnect between the result of the CAISO’s and the EIM Entity’s representation of the network? (i.g. The CAISO model shows a line overload, yet PacifiCorp sees no problem.)
- c. What will the CAISO do if the optimization cannot “solve” for PacifiCorp?
- d. Besides adjusting EIM participants, what can the CAISO model adjust?

**8. Virtual Bidding**

- a. If EIM contributes to, or causes, any virtual bidding uplifts, how are they allocated to EIM participants?
- b. How can Convergence Bids on the interties “converge prices” if, due to the EIM market, the Day-ahead Market model (absent PacifiCorp) is structurally different from the 15-minute markets (that includes PacifiCorp)?

**9. Generators and Schedule Coordinators**

- a. Must every generator (i.e. those not submitting economic EIM bids) in the EIM Entity be represented by a scheduling coordinator?
- b. Will the CAISO send a single invoice to PacifiCorp, or will the ISO invoice each schedule coordinator in PacifiCorp separately?

**10. EIM Participant Credit Requirement**

- a. Currently the CAISO Market Participants have credit requirements, will the new EIM Participants outside of the CAISO be subject to the same requirement?
- b. The CAISO Market Participants share in the CAISO market default, will there be separate market default tracked for the CAISO versus EIM and will the current market default allocation methodology be impacted?
- c. Will the Estimated Aggregate Liability and Collateral requirements apply to EIM Participants and will there be any change to existing processes or timelines?

**11. Unaccounted For Energy (URE)**

- a. If UFE is measured at the UDC level, would it require that all resources within an UFE-defined service area participate in the EIM Market scheduling and metering for the EIM Entity?