Xcel Energy Comments on CAISO EIM Second Revised Straw Proposal

General Comments

The Second Revised Straw Proposal shows progress. We appreciate the effort expended by the CAISO to address the issues previously raised. We believe that the CAISO can improve several areas of the proposal. These improvements will help CAISO operate an Energy Imbalance Market and provide greater certainty of benefits to potential EIM participants.

High Priority Issues:

Participant definitions, obligations and agreements

Xcel Energy raised concerns with the proposed Participant definitions and obligations in the previous version of the Straw Proposal. In response to comments, the CAISO stated that only the EIM Entity is responsible for maintaining system balance. While this is true with respect to the Balancing Area role matching generation and load in real-time, Xcel Energy disagrees with the CAISO response with respect to the obligation to ensure balanced schedules as part of an operations plan. The following discussion is intended to clarify our objections regarding this issue.

All Load Serving Entities (LSEs) have an obligation to meet their load service needs. The BA has the Reliability Standard requirement only to ensure real-time balance within the BA boundaries. The BA, and any other transmission providers in the BA, will charge entities that fail to maintain balance between loads and resources during the settlement intervals under Schedules 4 and 9 of their respective OATTs.

One of the primary benefits of the EIM for both the BAs and for the LSEs within the BA is to make imbalance service more efficient. As currently structured, we are concerned this efficiency will not materialize. The definition of roles for the BA in the Straw Proposal involves adding substantial new interface responsibilities and scheduling coordinator roles not provided today, but which are already the obligations of OATT customers that have settlement responsibility under Schedules 4 & 9 within the BA.

Therefore, Xcel Energy is asking that the CAISO reconsider their proposal and not obligate BAs in the EIM footprint to adopt new market interface capabilities that will be redundant to the systems (or at least the current responsibilities) of the OATT customers subject to settlement under with Schedule 4 and/or Schedule 9. The EIM Entity Scheduling Coordinator should only provide information related to those LSEs (or resources) that do not participate directly in the EIM.

Xcel Energy recommends that the CAISO review Attachment AN of the SPP Tariff to see how the SPP and its Balancing Authorities structured the process to allow the Market Participants to provide information directly to the Market Operator. Under the SPP market design, the BA provides information for reliability needs to the market operator and the reliability coordinator. However, all market settlement information, including all base schedule information, is provided to the market operator directly from the resource owner and LSEs (i.e. market participants, not the BA).

Please refer to Xcel Energy's comments on the revised Straw Proposal submitted on June 14 for more details related to specific changes needed to address this issue.

As a final comment on this issue, use of a single process for multiple entities to participate is much more efficient that having multiple processes required. Under the CAISO proposal, it is very likely that each Balancing Authority (i.e. EIM Entity) will develop different processes for their LSEs and resource owners to use. For market participants that are then in multiple EIM Entity BAAs, this could lead to an unintended consequence of differing operating practices and potentially different interface software for each EIM Entity.

Congestion Management

Xcel Energy supports CAISO in its desire to do away with the Adjusted Base Schedule determination through minimum shift optimization. We had concerns with the proposal, as it did not address the equity issue created if the minimum shift resolution involved market positions of third parties.

However, the CAISO needs to clarify how the new proposed congestion management process will take into account transmission priority when resolving congestion. Also, clarify how the EIM practices will simultaneously address external loop flow impacts contributing to the constraint. It would be an unacceptable market operations practice, due to the creation of revenue shortfall uplift costs for market participants, to allow without curtailment same-priority external loop flow impacts upon a limiting element within the market footprint which is in the throes of market redispatch. (We note that some minimum distribution factor threshold for external flow contribution is appropriate.) The market delivery base schedule curtailments and associated redispatch optimization within the market footprint will not generate sufficient revenue to cover the extra redispatch costs associated with the uncurtailed external impacts on constraints in the EIM footprint.

At the Phoenix meeting, CAISO stated its intent to identify the congested element and assign all congestion costs to that BA. This proposed solution will have the effect of making sure the BA addresses simultaneous feasibility of planned delivery within its own footprint in advance of the operating hour, which is good. (This is one of the three techniques CAISO is using to rationalize the elimination of Adjusted Base Schedules.)

However, this proposed remedy creates concerns of its own. The CAISO proposal does not yet take into account any level of transmission delivery curtailment priority in the identification and resolution of congestion.

Concern #1: EIM must prioritize congestion resolution cost allocation with respect to physical delivery rights

Take for instance an example where a non-firm base schedule delivery is taking place in an adjacent participating EIM footprint and contributing flow to the limiting constraint, while the BA "hosting" the limited element only has firm delivery schedules impacting the constraint. The CAISO proposal would require the BA with the constraint to accept the redispatch cost associated with its internal constraint. However, the EIM process must adjust schedules within the entire EIM to induce the congestion cost allocation (and as described elsewhere, curtail external contributing impacts comparably) to lower priority flow contributions from external sources. Assignment of the congestion cost through appropriate physical schedule curtailments must be consistent with Order 888.

It is not clear the CAISO has established an EIM mechanism to curtail the external flow impact associated with scheduled deliveries from inside the market footprint, but outside the BA with the limiting element. Comments from CAISO staff at the Phoenix meeting indicated their expectation is that the BA would use the available WECC tools (e.g. the UFAS procedure) to address what are called "unscheduled flow" impacts in this circumstance.

However, despite efforts of WECC participants to update and make the UFAS tools and practices more modern, it is not certain the tool and procedure will be either sufficient or fully available for the task within the market startup timeframe. Moreover, this task is important and potentially expensive to market participants, due to uplift and inequity issues. We respectfully request and advise that the capabilities be addressed as part of the market design and protocols, at a minimum, for deliveries that source and sink inside the EIM footprint.

As an example, SPP uses a tool similar to the NAESB Interchange Distribution Calculator or the WECC WebSAS tools (called the Curtailment Adjustment Tool or "CAT") to identify by transmission curtailment priority those impacts on limiting constraints which source and sink inside the market footprint. Using this tool they ensure that scheduled physical delivery rights are curtailed in a manner consistent with the tariff curtailment priority and do not allocate congestion cost responsibility to a higher level of delivery priority through schedule curtailment while lower priority impacts are contributing to the internal constraint. Their reliance on interconnection-wide tools therefore is limited to deliveries that have a source or sink outside the market footprint.

We recognize that external loop flow contributions to limiting EIM constraints will likely need to rely upon WECC tools. We consider the discussion above to underscore our concern for this issue relative to impacts of scheduled physical rights within the market footprint.

We evaluated and rejected an alternative proposal for CAISO, that if the contribution to a limiting element is due to parallel flows from a neighboring EIM BA using lower transmission service curtailment priority, the CAISO should assign the cost to that BA, not the BA where the congested element is located. However, we rejected the concept, as the neighboring BA will not have the visibility of the constraint nor the information as to the relative curtailment priority of their internal flows with respect to other impacts on the external constraint. The market operator in contrast has visibility over the entire EIM footprint and is therefore most suited to administer the issue with a tool to address physical delivery rights prioritization within the market footprint.

Concern #2: The proposal must appropriately avoid revenue insufficiency

The straw proposal indicates that the CAISO will exhaust market redispatch prior to coordinated reliability curtailments such as the UFMP or RC intervention. However, the proposal must address how loop flow impacts contribute to the need for base schedule adjustments and how mitigation of loop flow impacts will occur. ***Without a simultaneous process to address loop flow impacts at the time of market redispatch, there will be an unacceptable potential for revenue insufficiency for redispatch causing associated revenue neutrality uplift costs in the market footprint.*** For example, Section 3.6.4 anticipates that EIM market dispatch is exhausted prior to recourse to the UFMP. This could create uplift for market participants.

Concern #3: The proposal is silent on some seams coordination details

Will the CAISO offer a redispatch option to non-market areas in circumstances where the redispatch by the EIM is an efficient remedy for the external parties' curtailment obligations? If so, the proposal must address the interface for providing the cost allocation to the non-market entity associated with the redispatch service. Further, if the EIM footprint grows to the point of adjacency with another market operator (say for example, AESO), the markets will need to address border price convergence and loop flow entitlements for use in constraining their respective footprints' dispatch optimization. This concern may not require immediate resolution, but the CASIO should constitute the stakeholder and governance process to address them when they arise.

Over and Under Scheduling Penalties

The CAISO proposes to have only an under-scheduling penalty without a comparable over-scheduling penalty. This proposed design may increase the risk of revenue insufficiency for the EIM. We recommend the CAISO adopt a disgorgement penalty structure for over-scheduling outside of a reasonable error tolerance.

Ignoring, for simplicity's stake, the difference between MW and MWH when dealing with 15-minute intervals, here is a scenario of the over-scheduling issue and how it could contribute to revenue insufficiency:

Say an entity provides a balanced delivery schedule of 110 MW (from generation to load). With these established 15-minute base schedules, the generator will schedule a 110 MW injection and the load is schedules 110 MW withdrawal.

Now in real time the load actual metered value is 100 MW. Assume the LMP at the load is $70 and the LMP at the generator is $20. Assume the generator was dispatched down to 100MW for the interval (a conservative assumption, the converse puts an even finer point on the issue). Then in settlements, the generator owes $200 and the load is paid $700, netting this entity $500 in revenue. Because there was no payer for this $500, the settlement value will then be uplifted to the market through revenue insufficiency recovery.

Adoption of a disgorgement penalty in these cases, subject to a reasonable error tolerance, will mitigate the revenue neutrality concerns and reduce the potential for unintended consequences.

This issue was a realized concern in the SPP Energy Imbalance Market. There may be some differences compared to the CAISO two-settlement EIM that cause this to be less of a concern with respect to the difference from 15-minute to 5-minute settlements. However, we believe this is still an issue in establishing the 15-minute settlements. Given the potential for revenue neutrality impacts, we would appreciate the CAISO examining this issue in greater detail as part of their stakeholder discussions.

Greenhouse Gas

We appreciate the additional detail provided in the revised straw proposal. However, reading the revisions as well as the response to comments, we did not see anything stating an entity is able to opt-out of CAISO market participation[1]. One way to address our concern would be for the EIM design to allow resource owners to exclude resources from serving the California market. In the alternative, if the CAISO takes responsibility under CARB for energy moving from the EIM into California, this would alleviate our concern. Absent one of these alternatives, we are concerned with the default

[1] Xcel Energy does note that based on the detail provided in the revised document, a very high emissions rate could effectively keep a resource out of the California market. However, the discussion appears to state that the CAISO (or CARB) requires actual emissions information.

extension of a California state regulatory mechanism into a broader FERC-jurisdictional market structure.

Additionally, details provided in the straw proposal are somewhat confusing. It appears that the CAISO wants actual emissions rates while CARB utilizes an after-the fact calculation to determine each resource's emissions. There was also discussion in Phoenix related to the ability to set the emissions rate for different levels of output by a generator. The CAISO needs to clarify the straw proposal to ensure that these differences are clear. If EIM participants cannot avoid participation in the California market, stakeholders need sufficient detail to evaluate the economic risks of EIM participation associated with creation of CARB compliance obligations and the potential risks associated with the proposal.

Resettlement Losses

We appreciate the CAISO's response to our previous comment on this issue.

Marginal Losses and Regulation - Section 3.7.8 and Subsections

We appreciate the detail added to the Second Revised Straw Proposal on the issue of Marginal Losses.

In this same section, the CAISO provides additional detail related to regulation energy and states that the regulation energy will be considered uninstructed imbalance energy. Xcel Energy recommends that the CAISO set a regulation range, such as four percent (4%), and consider anything within this limit as regulation rather than uninstructed deviation. Under the EIM process, the BA will continue to have responsibility for NERC Standards compliance. Any variance between instructed set point (Dispatch Operating Point or DOP) and the variance limit should be considered regulation and treated the same as regulation energy inside the CAISO; only generation outside of that bandwidth would be considered uninstructed imbalance energy. We believe that this treatment provides appropriate information to the BAA without the including the connotation of "uninstructed" on the required service.

In Section 3.7.8.1, the CAISO states that "The load forecast error from RTD is settled at the weighted average price; however, there is not an offsetting settlement for generation." (Page 53). In Section 3.7.8.1.1, it states "Uninstructed imbalance energy of generation is settled at the 5-minute LMP; however, there is not an offsetting settlement of Load." These two statements appear to be contradictory. Please provide a numerical example showing the calculations expected where settling actual Load and generation causes unfunded uplift.

Finally, at the meeting in Phoenix, CAISO staff stated there would be 50-60 charge types in the EIM settlement process. The CAISO must list out each charge type that will be charged to the EIM participants and clearly state if these charge types are in addition to or included in the charges that have been discussed related to EIM participation.

Additional Issues:

Interaction with Reliability Coordinator (RC)

Xcel Energy appreciates the CAISO's response to our previous comment. Xcel Energy believes the CAISO should include this type of explanation in the next version of the EIM Straw Proposal.

Local Market Power Mitigation (LMPM) and Market Monitoring

The CAISO proposes to use the CAISO Department of Market Monitoring (DMM) as the EIM market monitor. We recommend that as part of the governance discussion, the EIM market monitor should report directly to the EIM governing body on EIM issues. Based on discussions at the initial EIM stakeholder meeting, the EIM market monitor should report directly to the EIM Advisory Committee at the start of the EIM market in addition to its responsibility to the CAISO Board of Governors.

Default Price

Xcel Energy believes that the proposed default energy bids are overly restrictive without further detail that provides justification. The CAISO must provide detailed information on the costs it assumes are “marginal cost” as stated in the Straw Proposal[2].

Threshold

We believe the CAISO proposal to evaluate market power impacts and potential mitigation for resources within the BAA where the constraint occurs is unreasonable. We recommend the CAISO include all resources participating in the EIM that can have significant mitigating impacts on the constraint. There is no technical justification for the BA boundary as establishing a market dominance footprint in a market environment. By excluding resources outside the BA that could have significant influence on the limiting constraint, the CAISO will tend to penalize the resources within the BA, through an excessively conservative market power evaluation. We note that other regional markets have established areas (e.g. “broad constrained areas”) which do not limit the evaluation to the local BAA.

Net Buyer Questions

We request the CAISO clarify how, based on the proposed structure, a resource could be a net buyer. As structured, the EIM Entities are the only load service entity that will deal with the CAISO. There is no expectation in the market structure as described in the straw proposal for LSEs and resources to be matched together so the market monitor could evaluate whether an entity is a net purchaser or not. In the discussion of a net buyer, it is unclear if a net buyer could be a resource, i.e. a resource that actually buys more from the market than it sells. Alternatively, please clarify if the CAISO intends to define a net purchaser as a market participant that has both loads and resources in the EIM and purchases more energy through the EIM than it sells.

Once the CAISO provides additional clarity on the definition of a net purchaser, Xcel Energy can determine a position on the proposed LMPM. However, at this time, the CAISO and the DMM have not persuaded us that, simply because the EIM lacks a day-

[2] As examples, are start-up, no load and long-term maintenance costs included in the determination of marginal costs?

ahead market, the mitigation process proposed is reasonable. The requirement for balanced schedules, especially if it is at the LSE level rather than the BAA level, provides better market power mitigation than any methodology in the straw proposal.

Withholding

The CAISO needs to add details in the Market Monitoring section related to the assumptions related to economic and physical withholding within the EIM. We recommend, based on the voluntary nature of the EIM process, a policy that there is no withholding as long as the LSEs and BAs provide sufficient resources to cover their requirements, including ancillary services.

Flexible Ramping

We appreciate the expanded discussion in the EIM Straw Proposal related to Flexible Ramping and its interaction with other issues in the proposed market. Based on the discussions in the Phoenix meeting, we have the following comments:

Flexible Ramp Comment 1. If the CAISO is to determine and allocate a Flexible Ramping requirement for the EIM portion of the footprint, the Flexible Ramping requirement evaluation should be based on delivery constraints, not BAA boundaries. A significant benefit in the evaluation of an EIM is the ability to reduce the needed level of Flexible Ramping capability through the diversity benefit that derives from meeting the net of load and renewables across a larger area.

Flexible Ramp Comment 2. In many areas of the Straw Proposal, the CAISO has shown a need for the EIM BA to retain its compliance obligation as a means to avoid placing additional duties and burdens on the market operator. We object in our comments to areas of the EIM design where this philosophy would result in a more expensive or less efficient implementation of a market interface for EIM participants. However, the concept is sound where local authority and responsibility are clear and do not increase the costs or deter participation in the EIM. Therefore, an alternative to the Flexible Ramp Comment 1 above would be for EIM BA participants to retain their current responsibility to determine what is appropriate for Flexible Ramping and their associated compliance obligations with respect to the BAL standards.

a. We point out that the current generation and load balancing reliability standards are not prescriptive with respect to amounts of resources allocated to compliance, only the measurement of BA compliance itself. If the CAISO determines and allocates a Flexible Ramping obligation to participating EIM BAs, will the CAISO also assume the BAL compliance obligations of the BA? We do not consider this likely and raise the question so that it can be dismissed. The BAs retain their BAL compliance obligations despite the presence of an EIM market operator, therefore the determination of local Flexible Ramping requirements should remain the purview of the respective BAs.
b. As currently proposed, we are concerned the Flexible Ramping process outlined in the Straw Proposal will contribute to minimum generation issues due to over-commitment of resources in the EIM. Over-commitment and the associated unit minimum operating points could lead to unneeded curtailment of variable resources and potentially decrease the benefit derived by the EIM market participants. This is another justification for the Flexible Ramping evaluation to remain the purview of the participating EIM BAs.

Real-Time Uplift Charges

Upon reading the revised uplift section, we feel this is a reasonable starting point for the EIM process. As we understand the description, the CAISO is proposing to allocate uplift costs based on BAA identified imbalance. This prevents charging uplift from the CAISO to EIM participants and vice versa. However, we request that the CAISO provide some simple examples to ensure that all parties understand the proposal. If our understanding is incorrect, the straw proposal needs additional detail to clarity this section. The additional details should address the following questions: How is uplift created in the absence of congestion? Without congestion, wouldn’t this be a simple market settlement? We request the CAISO address the examples taking into consideration our comments above with regard to incomplete congestion curtailments as a potential source of uplift in the market.

Section 3.3.11. Load Aggregation Points (LAPs)

We recommend adding language to the Straw Proposal to provide clarity that, while the CAISO will calculate the load distribution factors (LDFs), others may identify issues and the CAISO will work with those entities to address the concerns. We believe the CAISO should add the following language to the Straw Proposal: "If the EIM Entity believes the LDFs used by the CAISO needs adjustment, the EIM Entity should provide the CAISO information supporting adjustment. Once the CAISO has reviewed the information, the CAISO will address the concerns appropriately." This proposed language will address potentially contradictory statements currently in this section related to calculation and verification of the LDFs.

Section 3.3.15. Network Constraint & Contingency Definition

Xcel Energy appreciates the CAISO response to our concerns on this issue in the previous version. Due to the response to the issue, we suggest that the CAISO add more detail to this section detailing out the expectations for the potential need for different information based on different operating limits. Additionally, we ask that the CAISO state the EIM participants will be able to review the set of contingencies used as part of the security constrained economic dispatch (SCED) model. Finally, we ask that the CAISO put in this section that the market participants may obtain a copy of the network model for off-line analysis evaluation, subject to appropriate confidentiality restrictions.

Section 3.7.1. Settlement of Non-Participating Resources

We believe that this section has more detail than needed. To the extent that the CAISO desires to be clear that it will settle imbalances with the EIM Entity for loads and resources not participating in the EIM, we support the intent of the language. However, the section should end after the first sentence of the second paragraph. A party could construe the second sentence as requiring certain treatment of imbalances. To the extent that the EIM Entity determines how it will settle with non-participants, this sentence is beyond the scope of the EIM Straw Proposal. Based on discussions elsewhere in the straw proposal and at the face-to-face meeting in Phoenix, we understand that the CAISO will delete the third paragraph in its entirety if the CAISO continues forward with the elimination of the Adjusted Base Schedule.

Sections 3.7.5. Inadvertent Energy Accounting and 3.7.7.1 e-Tagging

Xcel Energy suggests that the CAISO delete the second paragraph in Section 3.7.5. This paragraph does not relate to Inadvertent Energy Accounting but rather describes the process that the CAISO proposes to use to account for energy flows between BAAs in the EIM and the CAISO. The straw proposal repeats this language in Section 3.7.7.1. To the extent that the CAISO plans to use tags for recording the transfer of energy, Section 3.7.7.1 is the appropriate place for this information.

Xcel Energy reiterates its previous comment related to tagging EIM flows. Other markets have requested and been granted waivers from the NERC tagging requirements. The continued reliance on tagging energy flows is unnecessary under a market construct. The market operator has better means to communicate information to the BAs participating in the EIM. Additionally, after-the-fact tags provide no reliability benefit. A pseudo-tie process would address the energy flow issues needed for BA calculations without requiring e-tag creation.