

Comments of Powerex Corp. on

Bonneville Power Administration's October 11, 2018 EIM Stakeholder Meeting

Powerex appreciates the opportunity to provide comments to the Bonneville Power Administration ("Bonneville") on its October 11, 2018 workshop regarding potential EIM participation.

Powerex is strongly supportive of Bonneville's move to explore participation in the EIM. Bonneville's exploration opens an important potential avenue for dialogue and negotiations with the CAISO that could yield key improvements in EIM design—improvements that would better consider and balance the interests of northwest hydro entities, including Bonneville, at a critical juncture as organized markets seek to develop and expand in the west. Many of Powerex's own market design interests and priorities—as well as those of other northwest hydro entities—are often highly aligned with the interests and priorities of Bonneville. From Powerex's perspective, although the EIM is a relatively small sub-hourly market, the inclusion of other similarly situated entities such as Bonneville likely improves the prospects for western organized markets to develop and evolve in a manner that considers the unique issues and priorities of northwest hydro utilities and their ratepayers. Moreover, addressing key EIM market design issues at this juncture may prove critically important to achieving broader organized market benefits over the long term.

Powerex thus supports Bonneville's exploration of EIM participation.

Specifically, Powerex believes Bonneville's exploration of EIM participation has the potential to provide three distinct benefits to Bonneville's customers, to northwest hydro utilities more generally, and to Powerex:

- Bonneville's exploration of entry into the EIM, if carefully managed, will increase the focus on key EIM enhancements that are critically necessary to make the EIM more workable and better able to provide net benefits in the near term for Bonneville and its customers, as well as for other northwest hydro entities.
- Near-term EIM market design enhancements in turn have the potential to significantly strengthen Bonneville's EIM business case, thereby reducing the risk that Bonneville's EIM implementation and ongoing costs, both direct and indirect, may need to be partially recovered from Bonneville's power and transmission customers, including Powerex.
- Bonneville's exploration of participation in the EIM will hopefully result in increased Bonneville engagement and advocacy in regional stakeholder processes, which is likely to be critical as the west tackles even larger market challenges, such as regional resource adequacy and forward capacity procurement and compensation, the potential development of a day-ahead organized market, and appropriate recognition of diverse state and provincial programs related to greenhouse gas emissions.

Powerex's goal in these comments is to provide feedback and input to Bonneville staff to assist the agency in moving towards EIM participation, but in a phased and careful manner.

Based on Powerex's preliminary assessment, however, Powerex is not confident that, absent key market design enhancements, Bonneville's current business case for EIM participation will result in overall net benefits. Powerex's initial assessment is based largely on the limited benefits Powerex has realized so far from its own EIM participation to date, together with Bonneville's substantially higher implementation and ongoing costs. Powerex's initial assessment of the potential net benefits to Bonneville of EIM participation is preliminary, and is based on information currently available. Moreover, Powerex's initial

assessment assumes that its own experience in the EIM is *generally applicable* to Bonneville's power business given that, like Powerex, Bonneville's EIM participation will be supported by clean, flexible storage hydro resources located in the northwest. However, Powerex recognizes that there may be numerous factors that could substantially improve Bonneville's EIM business case, including Bonneville materially refining its estimates of implementation and ongoing costs, the potential availability of additional categories of EIM benefits that Bonneville has not yet presented and that Powerex has not considered, the potential successful resolution of key ongoing CAISO stakeholder processes, and potential improvements in overall market conditions such as significantly increased opportunities to purchase oversupply energy.

Importantly, however, Powerex believes that, if a handful of key market design issues are substantively addressed in the near term, there can be substantially higher confidence that EIM participation would provide net benefits for Bonneville and its customers, and that the EIM could become more workable for northwest hydro utilities more broadly.

Powerex is cautiously optimistic that these issues may be addressed over the next few years, as CAISO staff has now begun to explore some of these issues in CAISO stakeholder processes. Moreover, in Powerex's experience, CAISO executives and market policy staff have demonstrated an increased willingness in recent months to better understand some of the key issues and priorities that northwest hydro entities face in their exploration of broader participation in CAISO organized markets. Powerex believes that Bonneville has a tremendous leadership opportunity to help ensure that markets in the region evolve in a manner that is beneficial to Bonneville and its ratepayers, and to the northwest region as a whole.

Powerex believes that the market design improvements necessary to make EIM participation workable for Bonneville are most likely to be achieved if Bonneville takes a phased approach to pursuing EIM participation. A phased approach would enable Bonneville to monitor, and extensively engage in, targeted CAISO stakeholder processes, as well as to discuss directly with CAISO staff the necessary EIM design enhancements that could provide substantially greater benefits to Bonneville and to similarly situated northwest hydro entities. Powerex believes such efforts can be conducted in parallel with Bonneville undertaking appropriate modernization and upgrades of its facilities, in preparation for potentially joining the EIM. Powerex is also hopeful that this phased approach need not cause any material delay in Bonneville's potential EIM go-live date.

Powerex's concern that Bonneville's EIM participation, absent key EIM design enhancements, may not generate net overall benefits is based primarily on Bonneville's estimates of its EIM-related costs relative to Powerex's experience to date of the types and magnitude of its own net incremental EIM benefits. Bonneville's estimated costs for EIM entry and ongoing participation are substantial, totaling \$35.3 million in initial costs and \$6.1 million per year thereafter.¹ In comparison, Powerex's EIM implementation costs were less than \$6 million, and its ongoing operational costs are estimated at less than \$1 million per year. Given Bonneville's substantially higher estimated costs, and the relatively small size of the EIM sub-hourly market, Powerex believes that substantial positive benefits in multiple areas need to be identified in order to be confident that Bonneville will realize overall net benefits from EIM participation. At this time, however, Powerex believes that:

1. there are limited incremental power business benefits from EIM participation for northwest hydro utilities; and

¹ Bonneville staff presentation at July 24, 2018 EIM Stakeholder Meeting, at 17. Available at: <https://www.bpa.gov/Projects/Initiatives/EIM/Doc/20180724-July-24-2018-EIM-Stakeholder-Mtg.pdf>

2. although there may be transmission business benefits from Bonneville's participation that are not available to Powerex, these benefits may also be limited in the near-term.

Powerex's preliminary evaluation of the likely power business and transmission business incremental benefits from EIM participation is based on four broad considerations:

1. EIM opportunities for surplus energy sales

From Powerex's own EIM experience, the EIM does not currently represent an attractive market for the sale of surplus energy from low- or non-emitting resources relative to other market opportunities. Superior sales opportunities are available in the bilateral markets and through the existing CAISO intertie bidding framework, where hydro resources can generally receive the full benefit of their non-emitting attributes, where hydro resources can also participate in the sale of capacity and flexibility products such as sales of resource adequacy and ancillary services, and where bid mitigation does not create the risk of forced energy sales that inefficiently deplete limited water in the wrong hours. Importantly, Powerex believes that each of these specific issues that reduce the attractiveness of the EIM for surplus hydro sales, relative to other markets, can be addressed through CAISO stakeholder processes, with material benefits realized if specific market design changes can be implemented over the next few years.

2. Impact of current EIM resource sufficiency framework

Potential EIM benefits are also affected by the EIM's resource sufficiency framework. Unlike other aspects of the EIM design, the resource sufficiency evaluation was developed specifically for the start of the EIM; it was not adapted from a framework that previously existed in the CAISO real-time market, and hence there was no prior experience with it. Unsurprisingly, its actual use in the EIM has revealed the need to refine the resource sufficiency tests, as there is growing evidence that:

1. EIM entities may often have to carry more flexible capacity reserves than were actually carried prior to joining the EIM (and hence more than is generally needed to reliably balance a BAA's load and variable energy resources intra-hour) as a result of inaccuracies and/or issues with the timeliness of information associated with each hour's resource sufficiency evaluation.
2. There appear to be challenges with the application of the resource sufficiency tests to the CAISO BAA, given its unique situation as a full organized market and as the only BAA that includes an intertie bidding framework. From time to time, these and other differences may result in the CAISO BAA erroneously passing the resource sufficiency test, and then potentially leaning on resources elsewhere in the EIM footprint for flexibility and/or capacity.

The existing challenges with the resource sufficiency evaluation directly impact EIM entities, and would also impact Bonneville. For instance, if Bonneville often has to increase the quantity of balancing reserves it carries, it will need to reduce the capacity that is available to make surplus energy or capacity sales outside of the EIM, impacting its non-EIM revenues. Similarly, if the flexibility and capacity of Bonneville's resources (and those of other EIM entities) can be accessed without appropriate commercial forward arrangements for capacity and/or flexible capacity, there will be less pressure or incentive to develop robust programs in the CAISO BAA for the forward procurement of capacity and flexibility. Bonneville's potential for leadership in this area could move key CAISO stakeholder initiatives forward in the near term. ***Ultimately, robust programs for the forward procurement of capacity and flexibility are critical to ensuring that Bonneville, and other northwest hydro entities, receive fair value for providing these reliability attributes from their resources.***

3. EIM opportunities for energy purchases

Powerex's experience has been that the EIM does offer some incremental opportunities to purchase energy, particularly during midday "belly of the duck" hours. These benefits arise primarily because

energy exports out of the EIM footprint (including the CAISO BAA) do not incur CAISO's wheeling charge of approximately \$11/MWh. However, the ability to realize these benefits is limited by the ability of the purchaser to back down its resources and absorb energy imports during the specific hours of the day and seasons in which California experiences oversupply. Powerex understands that Bonneville may be able to realize these benefits during some months of the year, but, like many northwest hydro entities, will likely experience challenges in purchasing energy during high hydro inflow periods, particularly in the spring season.

4. EIM congestion management benefits

In addition to power benefits, Bonneville may realize additional transmission benefits from EIM participation. These would generally be incremental benefits that are not available to Powerex under its participation framework. Such potential transmission benefits include improved congestion management and reduced re-dispatch costs. As illustrated by Bonneville during the 11 October stakeholder workshop, however, congestion on the Bonneville network is generally infrequent, making congestion re-dispatch savings through the EIM potentially modest at this time.

In summary, the modest power benefits realized by Powerex from its EIM participation to date should highlight for Bonneville and its customers the need to pursue several targeted EIM enhancements with CAISO and its stakeholders, particularly given that Powerex was able to join the EIM with much lower up-front and ongoing costs, its EIM participation required limited changes to its operations, and required only very minor changes to BC Hydro's transmission tariff. Bonneville's EIM participation appears to require substantially higher up-front and ongoing costs and may potentially include more extensive amendments to its transmission tariff and to its power and transmission operations, making it unclear whether available power and transmission benefits will outweigh the costs in the near-term under the current EIM design. Without key near-term EIM enhancements that can result in a stronger business case, Powerex is concerned that Bonneville may incur significant implementation and ongoing costs that may not be recovered through additional EIM revenues, and may therefore need to recover these costs through the rates it charges to its power customers and its transmission customers.

Based on the foregoing, Powerex believes the business case for Bonneville's EIM participation should be revisited and updated after engaging in the following activity, and prior to Bonneville fully committing to join the EIM. More specifically, Powerex recommends that Bonneville consider pursuing EIM participation in a phased approach, whereby Bonneville will first:

1. Identify and proceed with targeted modernization and upgrade investments that will be necessary regardless of whether it joins the EIM; and
2. Actively engage with CAISO, both directly and through CAISO stakeholder processes, to examine and seek the implementation of key EIM enhancements that will make that market more workable and beneficial for participation by northwest hydro entities and their ratepayers, strengthening Bonneville's business case in the process.

Extensive discussions with CAISO staff prior to executing an implementation agreement proved to be critical to Powerex's EIM implementation. Despite the limited nature of Powerex's intended participation, Powerex nevertheless faced certain challenges related to its participation with loads and resources located wholly outside the United States. Through extensive discussions, Powerex and CAISO were able to identify a framework that could satisfactorily address these challenges. This included the articulation of eight key principles, which were incorporated into Powerex's EIM implementation agreement. These key principles solidified at the outset CAISO's high-level agreement on matters including Powerex's participation as a Canadian EIM Entity, the model representation of Powerex's aggregated participating

and non-participating resources, and a commitment that the local market power mitigation framework must be workable for participation supported by large storage hydro resources.

Powerex believes there is a valuable opportunity for Bonneville to similarly discuss with CAISO key issues that must be addressed to make its own EIM participation successful. However, Powerex's experience is that such engagement and discussions are significantly more effective when they occur before fully committing, or appearing to commit, to EIM participation. After such a commitment has been made, the likelihood of successfully pursuing necessary changes may be reduced, as time windows shorten and CAISO balances its many competing priorities and its limited resources.

Powerex has identified several specific improvements to the EIM design that it believes have a strong potential to improve the business case for Bonneville's participation in the EIM. Each of these improvements is consistent with the efficiency and reliability objectives of the EIM and with sound market design principles; none of these enhancements are intended to inappropriately skew market outcomes in favor of any particular region or entities. Additionally, Powerex believes each of the necessary enhancements are entirely within the ability of what can be achieved by the CAISO through its stakeholder processes over the next few years, but only if it elects to prioritize those initiatives. Bonneville has a tremendous opportunity to take a lead role in helping ensure that such market design improvements are achieved in the near term. While in Powerex's experience a prospective EIM entity is not likely to "get" everything it asks for from the CAISO, the resolution of key implementation and market design issues is certainly possible; such resolution is necessary to strengthen the agency's EIM business case while ensuring both that the EIM is operationally workable for northwest hydro resources and that hydro resource attributes are appropriately compensated. These key EIM design enhancements are included in the issue-specific appendix to these comments.

APPENDIX A

Comparison of surplus sales opportunities in different markets

	Bilateral Markets	CAISO Intertie Bidding Framework	EIM
Opportunities for sales of 15-minute and 5-minute energy	Limited	Yes	Yes
Enables additional energy sales from capacity set aside for intra-hour balancing?	No	No	Potentially, during capacity limited hours
Voluntary offer prices may often be overridden and the resource dispatched anyway	No	No	Yes
Appropriate Compensation for clean / low-GHG attributes?	Yes	Yes	Depressed
Enables transmission and resources to concurrently support energy sales, as well as Resource Adequacy and Ancillary Services products?	Yes	Yes	No

Comparison of energy purchase opportunities in different markets

	Bilateral Markets	CAISO Intertie Bidding Framework	EIM
Incurs transmission costs, particularly CAISO export fees?	Yes	Yes	No

APPENDIX B

Comments on Specific EIM Issues

Modeling And Aggregation Of BPA Generation

Powerex agrees with Bonneville's proposal to explore EIM participation supported by aggregate resources. This approach enables an EIM participating resource to be supported by the capability of multiple discrete physical resources at electrically similar locations. This maintains the ability of a hydro operator to direct the particular units that respond to EIM dispatch while satisfying the EIM's need for modeling accuracy. In Powerex's view, Bonneville's specific proposed aggregation of its hydro system is well considered and appears reasonable and workable.

Transmission Available For EIM Transfers

Powerex supports Bonneville's proposal to make transmission service available to the EIM under the "donation" framework. This approach provides valuable flexibility to both Bonneville's power and transmission business lines. Bonneville's power business can elect to voluntarily make available to the EIM a portion of its Firm (7-F) transmission reservations that it has procured, in its capacity as a Bonneville transmission customer. Such donation would entitle Bonneville to participate in any congestion rents collected in the EIM on the donated transmission path(s). Bonneville's power business can thus make the hourly determination regarding the highest-value use of its transmission reservations. Other transmission customers holding transmission reservations on Bonneville's system would similarly be able to voluntarily make their Firm transmission reservations available to the EIM, in return for participation in any congestion revenues earned on the associated path(s).

At the same time, the "donation" approach appropriately minimizes revenue risk to Bonneville's transmission business. A significant share of Bonneville's transmission revenues are earned from customers purchasing service exporting out of, and wheeling through, Bonneville's service territory. Moreover, Powerex agrees with Bonneville staff's assessment that it expects Bonneville would be a "net wheeler" in the EIM (*i.e.*, Bonneville would facilitate more EIM transfers through its BAA than generation or load within its BAA). An EIM transmission framework that provided all remaining unscheduled Bonneville transmission capacity to the EIM at no cost could therefore undermine customers' incentives to pay for Bonneville transmission service under its tariff, leading to material cost shifts amongst its customers. Powerex thus agrees that it would be unacceptable to expose Bonneville to significant erosion of its transmission revenues through the EIM "ATC" approach to making transmission service available that has been adopted in some other regions.

Local Market Power Mitigation

Powerex believes the existing local market power mitigation and default energy bid framework must be improved prior to Bonneville participating in EIM. Powerex has found this existing framework to be largely unworkable, and has had to reduce its voluntary participation in the EIM during numerous hours in order to minimize the risk of harm. These challenges include being prevented from making EIM purchases that would enable greater conservation of limited hydro resources, and being forced to make EIM sales in hours and at prices when depleting limited water is not economic, resulting in inefficient depletion of the energy-limited resource.

As has been discussed in recent stakeholder meetings on this topic, these same challenges are being experienced by other EIM entities supported by storage hydro resources, and some EIM entities appear to have determined that some of their hydro resources simply cannot be EIM participating resources at all. In particular, entities may experience operational consequences if their storage hydro system is subject to additional, unexpected depletion of energy during certain periods or conditions. In the most severe cases, the EIM may override a hydro resource's submitted offer price, resulting in early depletion of its limited supply and causing the entity either to make subsequent high-cost market purchases in order to serve its native load and/or potentially risking the violation of operating constraints or license conditions.

Fortunately, CAISO is presently examining potential improvements to its local market power mitigation and default energy bid provisions, and Bonneville has actively participated in this initiative. Powerex greatly appreciates CAISO's staff efforts on this issue, and is cautiously optimistic that sufficient improvements might be achieved.

Resolution Of Local Market Power Mitigation: Powerex believes Bonneville should continue to participate actively in the CAISO stakeholder process on enhancements to the local market power mitigation framework. It will be critical that this stakeholder process result in CAISO tariff amendments that improve the accuracy of when mitigation provisions are applied, and that provide for a default energy bid option that ensures hydro resources can participate in the EIM without undue risk of having their energy being inefficiently depleted, incurring economic losses, and facing potential operational challenges.

Resource Sufficiency

Many EIM entities and stakeholders have urged CAISO to convene a comprehensive stakeholder process to assess the performance of the resource sufficiency evaluations and to identify necessary improvements. These improvements include changes to make the evaluations more workable, and make EIM entities better able to anticipate the upward and downward capacity they will need to make available to the EIM in order to pass the resource sufficiency requirements. Currently, the uncertainty surrounding the required upward and downward capacity necessary to pass these evaluations has led EIM entities to often have to carry excess balancing reserves to reduce the risk of an inadvertent failure. In addition, the methodology used to calculate the reserves needed to meet an entity's imbalance energy needs with high confidence does not appear to accurately anticipate the specific variability characteristics associated with wind resources.

There has also been strong stakeholder interest in assessing the accuracy with which the resource sufficiency evaluations consider the CAISO BAA's unique characteristics as a fully organized market footprint, and as the only entity with an intertie bidding framework. Stakeholders have expressed concern that, under certain conditions, the existing evaluation may overstate the resources available to the CAISO BAA, and hence the CAISO BAA may erroneously pass the resource sufficiency evaluation. An accurate evaluation of the resources available to meet energy imbalances in each BAA, including the CAISO BAA, is necessary to achieve the EIM's design objective of not permitting "leaning" on the capacity or flexibility of other EIM participants. This design objective recognizes that the opportunity to "lean" on resources through the EIM can undermine reliability objectives as well as incentives for each participating BAA and/or entity to procure, and separately compensate for, sufficient capacity and flexibility on a forward basis.

Improving the workability and accuracy of the resource sufficiency requirements for EIM entities appears to be a high priority for numerous entities participating in the EIM. Unfortunately, CAISO has thus far not

proposed a stakeholder process on this topic, given its limited resources. Instead, CAISO has proposed to make targeted changes to the resource sufficiency evaluation either through changes to its business practice manuals or in the context of stakeholder initiatives focused on other CAISO priorities, such as 15-minute granularity in its day-ahead market, or extending the EIM to the day-ahead timeframe.

Resolution of workability of EIM Resource Sufficiency Test: CAISO has already begun to make some improvements to make the resource sufficiency evaluation more predictable and accurate for EIM entities. Powerex urges Bonneville to following these efforts closely. Powerex believes Bonneville should also work with CAISO to develop realistic estimates, based on actual data, of Bonneville's likely upward and downward capacity requirements to pass the resource sufficiency tests. This technical-level engagement can also be valuable in identifying any other potential challenges, allowing them to be addressed in a timely manner.

Resolution of robustness of EIM Resource Sufficiency Test to CAISO BAA: Powerex believes accurately applying the principles and criteria of the resource sufficiency tests to the CAISO BAA may require extensive modifications to the design of the test. As a practical matter, such a re-design may need to be pursued only after CAISO enhancements to the resource adequacy framework, which it recently initiated. This is because the CAISO BAA is likely to require a more robust resource adequacy framework in order to ensure that it is consistently able to pass a more robust resource sufficiency evaluation for its BAA, particularly as its resource mix continues to change. It may also be a more efficient use of limited CAISO staff resources for the development of a more robust EIM resource sufficiency test to be pursued as part of efforts to design a resource sufficiency test that is appropriate for a potential day-ahead market.

None of these changes are likely to occur in the near term, however. In the meantime, it should be recognized that there is a potential for any EIM participating resources to be "leaned on" for capacity and flexibility. EIM participation with capacity typically carried for intra-hour balancing reserves perhaps poses the lowest risk of undermining opportunities for forward sales of capacity and flexibility products, as these reserves are generally not available to support commercial transactions in the first place. Additional enhancements to the resource sufficiency test are needed to so that EIM participation with additional capacity no longer risks potentially undermining incentives to contract and compensate for capacity and flexibility attributes.

Greenhouse Gas Emissions

The EIM can, and often does, result in EIM transfers that serve load in the CAISO BAA. Consequently, the EIM must be consistent with California's greenhouse gas ("GHG") rules, which include calculating and reporting the GHG intensity of energy imports, and retiring the associated quantity of California GHG emissions allowances after the end of the year.

The manner in which the EIM has applied California's GHG rules has proven to be highly inaccurate and problematic. Simply stated, the EIM algorithm "deems" EIM transfers serving California load to be sourced from the lowest-emitting EIM participating resources that were willing to accept a compliance obligation. The EIM algorithm in no way identifies the out-of-state resource that was incrementally dispatched as a result of enabling EIM transfers to serve load in California.

As a consequence of the design of the EIM algorithm, the EIM dispatch has systematically understated the GHG emissions associated with the dispatch of natural gas and coal resources. Indeed, CAISO data shows that net EIM imports into the CAISO BAA are primarily associated with net EIM exports from BAAs in the Desert Southwest, which are largely based on natural gas and coal. At the same time, the EIM algorithm has "deemed" that most of the EIM imports serving California load were from non-emitting

resources. The inability of the EIM algorithm to properly implement California Cap and Trade program has resulted in significant net benefits to coal and natural gas resources, relative to other markets—in which the Cap and Trade program has been more effectively applied—but has also resulted in diminished opportunities for surplus sales from hydro resources relative to other markets.

Through an extensive stakeholder process, CAISO identified enhancements to the EIM algorithm intended to reduce the inaccuracy associated with its “deeming” approach. These enhancements are expected to be implemented in November 2018, however, they are widely recognized as offering only a partial solution. Powerex believes that accurate and consistent GHG treatment of imports serving California load likely needs to be addressed further over the longer term. The goal of such efforts is not to skew the benefits in a manner that is favorable to one group of entities, but to ensure that the EIM accurately reflects the application of California’s Cap and Trade program, and is also able to apply the rules of any GHG programs that may be implemented in other jurisdictions in the future.

Resolution Of EIM GHG Issue: The upcoming changes to the GHG aspects of the EIM algorithm are not anticipated to eliminate the problem of inaccurate GHG attribution or the resulting GHG leakage. This means that the issue will remain a challenge for the EIM going forward, and will also need to be addressed in the context of any potential design of a regional day-ahead organized market. At this time, CAISO has not planned any stakeholder initiatives to further explore how California’s Cap and Trade program can be more accurately implemented in the EIM. It will be vital for Bonneville and other stakeholders to continue to highlight the importance of this issue, and to request ongoing analysis and data to better understand the scope of the remaining challenges in the EIM. It will also be vital for Bonneville to be actively engaged in considering the GHG-related aspects of any potential day-ahead market. Additionally, Powerex encourages Bonneville to actively participate in CARB workshops and proceedings regarding the application of California’s GHG-related objectives to energy imports serving California load.

EIM Support For Delivery Of Resource Adequacy And Ancillary Services Products

Currently, transmission and resources that are set aside for participation in the EIM cannot also be used to perform under the obligations of resource adequacy or ancillary services sales commitments. This is in contrast to transmission and resources offered under the CAISO’s intertie bidding framework, which can be used to concurrently support sales of energy, as well as ancillary services or the satisfaction of resource adequacy obligations.

It appears both appropriate and beneficial to market efficiency for CAISO to enable rules under which the must-offer obligation of resource adequacy commitments at a CAISO intertie can be satisfied by resources (and necessary transmission rights) offered into the EIM in excess of the resources that are needed to satisfy resource sufficiency requirements.

Resolution Of EIM Support For Delivery Of RA And AS Products: Bonneville can highlight the need to enable EIM participating resources to satisfy resource adequacy and ancillary services sales obligations.

Governance

The EIM has a unique hybrid governance model, in which certain rules that apply only to the EIM area outside of the CAISO BAA are under the purview of the EIM Governing Body. Rules that apply more generally to the real-time market, including but not limited to the EIM area outside the CAISO BAA, are under the purview of the CAISO’s Board of Governors, with advisory input from the EIM Governing Body.

Powerex believes that the above formal governance framework appears to be workable given the limited transaction volume in the EIM. Experience to date has also shown that the EIM Governing Body has considered the interests and priorities of EIM entities outside of the CAISO BAA. While Powerex believes this hybrid formal structure, without significant enhancements, may not be workable for a multi-state organized day-ahead market, it concurs with Bonneville staff's view that this framework is not, in itself, a "showstopper" for Bonneville's participation in the EIM.

Governance goes beyond the formal decision-making process, however. Before a body can approve or reject a proposal, that proposal has to be developed. And in order for any proposal to be developed, the underlying issues must be prioritized, staff resources must be assigned to it, and a stakeholder process needs to be convened. The decisions regarding which issues are addressed and which issues are deferred are not made by the formal approval bodies, but by CAISO staff. In addition, the framing of the scope of each initiative, the initial proposals, and decisions regarding the design of the final proposal are largely driven by CAISO staff, with important input from CAISO's DMM and, in certain cases, the Market Surveillance Committee. This means that the concept of "governance" must be viewed broadly as the collection of all decision-making influence that defines how the EIM is designed, operated, evaluated, and changed over time.

CAISO has recently used its stakeholder processes to explore issues that are priorities to northwest hydro entities, including the current initiative on local market power mitigation enhancements. However, the next few years are critical to demonstrating that the unique interests and priorities of northwest hydro utilities are not only recognized, but meaningfully balanced against the interests and priorities of *other* entities and regions, particularly in cases where those interests may be competing.

Resolution Of Governance Concerns: Powerex believes that Bonneville's continued and active engagement in CAISO stakeholder processes will be valuable and necessary to help ensure issues that are important to Bonneville, its customers, and to northwest hydro utilities are adequately reflected in the initiatives prioritized by CAISO staff, and in the proposal that are put forward. There are promising indications that CAISO staff is placing a higher priority on issues that matter to northwest hydro entities. Bonneville can help ensure progress continues to be made by making it clear that successful resolution of the key EIM enhancements are a priority to Bonneville, its ratepayers, and the region.