

**Comments of Powerex Corp. on
Consolidated EIM Initiatives from 2017 Roadmap
Draft Final Proposal**

Submitted by	Company	Date Submitted
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Powerex appreciates the opportunity to submit comments on CAISO’s Consolidated EIM Initiatives from 2017 Roadmap Draft Final Proposal (“Draft Final Proposal”). The Draft Final Proposal removes certain proposals from the scope of this initiative and refines other proposals based on stakeholder feedback. Powerex supports the Draft Final Proposal, as explained more fully below.

I. CAISO’s Proposal to Remove 2017 Roadmap Items from Further Development at this Time

In the Draft Final Proposal, CAISO explains that it has decided not to proceed with efforts to develop three initiatives identified in the 2017 roadmap.

Third Party Transmission Contribution

As Powerex stated in its prior comments, there appears to be limited benefits available at this time from pursuing this initiative. Under the existing EIM framework—in which transmission is made available to the EIM only by EIM entities—limitations on EIM transfers are relatively infrequent. This indicates that establishing a framework to allow non-EIM Entities to make their transmission available to the EIM is unlikely to confer material efficiency benefits. It also indicates that the primary incentive to encourage transmission rights holders to make those rights available to the EIM—*i.e.*, receiving a share of congestion rents on the donated path—is unlikely to be effective. While Powerex believes that establishing a framework whereby third parties may make their transmission rights available to the EIM in exchange for a share of congestion rents may be sound in concept, Powerex believes the limited near-term benefit do not warrant dedicating resources to develop and implement such a framework at the present time.

Management of Bilateral Schedule Changes

Powerex agrees with CAISO that the manner in which EIM participation has been implemented in some transmission provider service territories has resulted in transmission customers facing EIM-related financial charges when they submit or adjust a bilateral interchange schedule after T-57. As explained in Powerex’s prior comments, the application of EIM charges to transmission schedules under the OATT framework can significantly undermine the value of obtaining transmission service over the system of a transmission provider that participates in the

EIM. Powerex believes that some transmission providers may be facing significant impacts to their transmission revenues as a result of having taken this approach to implementing the EIM within their service territory.

The above challenge was created—and can therefore be addressed—by the transmission service providers themselves. Nothing in the CAISO tariff or in the EIM's market design *compels* transmission providers to apply EIM-based changes to bilateral interchange schedules wheeling across their systems. Powerex therefore agrees that the decision of whether and how to address this issue should be left to the individual transmission providers that participate in the EIM, rather than through changes to CAISO's tariff. Powerex urges current EIM entities to revisit whether it is appropriate to apply EIM imbalance charges to bilateral wheel-through schedules after T-57, and new EIM entities to carefully consider how they implement the EIM in order to avoid adversely impacting transmission revenues.

Equitable Sharing of Wheeling Benefits

Powerex believes that the issue of appropriately recognizing the value provided by EIM entities that support EIM transfers with their transmission investments is important and needs to be further explored. From the data available to date, it is clear that some BAAs systematically benefit from wheeling energy across other BAAs, but do not contribute to the cost of the facilities or transmission rights that make such transactions possible. Such outcomes appear inequitable. At the same time, Powerex also recognizes the need to minimize variable hurdle rates that could reduce the efficiency benefits achieved in the EIM, as well as the importance of transmission reciprocity and the elimination of rate pancaking as core principles of the EIM market design. Due to the careful balance that would need to be struck between maximizing efficiency and ensuring equitable sharing of EIM benefits, Powerex does not object to CAISO removing this issue from the scope of this initiative. However, Powerex supports taking up this issue in a separate stakeholder proceeding where these issues can be thoroughly explored and considered.

II. Powerex Supports the EIM Enhancements for Winter 2017

The Draft Final Proposal also identifies certain enhancements to the EIM that CAISO plans to pursue for implementation in Winter 2017. Powerex supports these enhancements, which seek to automate the ability to inform the EIM of activity that is already permitted and that already occurs today, albeit through manual processes. Automation of these existing functions will reduce staffing burden, ensure more timely communication of information to the EIM, and increase accuracy by reducing errors associated with manual data entry. None of the proposed enhancements would change power flows, change the manner in which activity is financially settled in the EIM, or otherwise enable activity or behavior that is not currently permitted. Moreover, these automated functions will be available to all EIM entities. While not every entity will choose to utilize every one of the enhanced capabilities themselves, all EIM participants benefit from the EIM operating with the most timely and most accurate information possible, which is precisely what the proposed enhancements achieve.

Automated Matching of Import/Export Schedule Changes with a Single EIM Non-Participating Resource

This proposed enhancement would automate communication to the EIM regarding how a BA will maintain balance in response to changes in interchange schedules after T-40. It is important to recognize that the circumstances that can lead to changes in interchange schedules after T-40 are distinct and independent from the actions that a BA may take to maintain balance within its area following such a change. Specifically, the sequence of activities may be described as follows:

- 1. Interchanges schedule changes after T-40**—this can occur as a result of a merchant entity entering into new commercial transactions entailing either the import or export of energy, and/or as a result of curtailments to schedules that were accepted *prior* to T-40 (e.g., due to transmission de-rates on the scheduled delivery path). EIM participation leads to financial settlement consequences for interchange schedule changes after T-40, but it neither prohibits entities from entering into bilateral transactions after T-40, nor does it eliminate the potential for transmission curtailments to occur.
- 2. BA is required to maintain BAA balance following change to interchange schedules**—in order to maintain a balance between supply and demand within the BAA, there must be an equal and offsetting change to compensate for any adjustment to interchange schedules. How this balance is maintained is an operational decision made by each BA. And while EIM participation provides an additional option for balancing—by allowing the EIM optimization to identify which resources increase or decrease output—EIM participation does not prevent BAs from directing changes to the output of non-participating resources within their own BAAs to “self-balance” changes to interchange schedules.
- 3. Adjustments to non-participating resources is communicated to EIM**—if a BA adjusts the output of non-participating resources in its own BAA in response to changes in interchange schedules, this information needs to be communicated to the EIM. This communication currently occurs through a manual process. Consequently, there can be a significant delay between the time that the EIM receives information regarding the change to interchange schedules (item 1, above) and when it receives information regarding the BA’s response to that change (item 2, above). This can result in the EIM “over-responding” to changes in interchange schedules by seeking to dispatch EIM participating resources, not knowing that the affected BA will also adjust non-participating resources in its BAA (and these resources may, in fact, already be responding).

The proposed enhancement would be limited to automating the communication of information to the EIM market operator regarding adjustments to non-participating resources in response to interchange schedule changes after T-40. The proposed enhancement would *not* change the ability of entities to enter into commercial transactions after T-40 or to experience curtailments to pre-existing schedules, nor would the proposed enhancement change the financial settlement consequences of such events. Similarly, the proposed enhancement would *not* change the ability of a BA to offset those changes to interchange schedules by adjusting the output of

resources within its BAA, nor would it change the financial settlement consequences of such balancing actions. The proposed enhancement would *only* address the third and final step discussed above, which is the process of informing the EIM of the actions taken by a BA.

Powerex notes that not only are BAs *permitted* to take independent operating actions to maintain balance in their BAAs, but there are several important reasons why it may be inefficient or impractical for a BA to rely exclusively on the EIM to balance all changes after T-40. For example, Powerex's day-ahead schedules into or out of the BC Hydro BAA may be exposed to curtailments that, while infrequent, may be larger than the amount that can be balanced through the EIM, given the anticipated volume of EIM transfers (*i.e.*, 300 MW to or from CAISO or other EIM entities). Moreover, capacity that is available to respond to a once-in-the-hour change due to transmission curtailments may be unable to respond across its entire range in each 5-minute interval throughout the hour, as would occur if that capacity was offered into the EIM as a participating resource.

Powerex strongly supports EIM enhancements that provide more timely and accurate information to the EIM regarding movements in non-participating resources. The proposed enhancement will benefit entities that elect to utilize the automated functionality through reduced workload and reduced risk of error associated with manual data entry. Moreover, entities that elect to utilize the automated functionality will benefit from a lower risk of the EIM settlements that do not reflect both the changes to interchange schedules as well as the offsetting changes to non-participating resources. Entities that do not elect to utilize the automated matching functionality will also benefit, as operation of the EIM will be based upon more accurate information about the state of resources. Powerex anticipates utilizing the proposed automated matching functionality, as Powerex may have a high number of interchange schedules that change after T-40, either reflecting bilateral market activity or curtailments to earlier schedules. However, Powerex believes that the proposed enhancement may also be beneficial for other EIM entities under different circumstances.

CAISO initially proposes to permit EIM entities to designate a single non-participating resource as the resource that will respond to changes in interchange after T-40. In response to stakeholder input, CAISO proposes to subsequently expand this functionality to permit multiple non-participating resources to be identified as providing this response. Powerex supports the refinement of this enhancement in light of stakeholder input.

Automated Mirror System Resources at ISO Intertie Scheduling Points

The auto-matching enhancement allows timely communication of how an EIM entity will balance changes to post T-40 interchange schedules with non-EIM BAAs. The automated mirror system resources provides similar functionality for post T-40 changes to interchange schedules to CAISO intertie scheduling points. For example, Powerex may have a day-ahead final schedule of 500 MW to be delivered to Malin. At T-30, however, a transmission de-rate on the COI causes this schedule to be curtailed to 400 MW. Currently, this change must be communicated through a manual update to the mirror system resource. The proposed enhancement would automate this process, ensuring the EIM receives timely and accurate information about the changed conditions. Powerex strongly supports this enhancement.

Base EIM Transfer System Resource Imbalance Settlement

The Draft Final Proposal includes an enhancement that would facilitate, but not require, settlement of post T-40 bilateral transactions between EIM entities. This enhancement would provide to EIM entities settlement information for post T-40 changes to bilateral schedules. The data will allow EIM entities to determine the point of delivery of the transaction so that the LMP used for settlement between the two EIM entities will be known.

Powerex understands this proposed enhancement was included in response to interest from stakeholders, and supports pursuing this functionality.

Leveraging New Non-Generator Resource (NGR) Modeling Functionality

Powerex supports leveraging the existing Non-Generator Resource (NGR) functionality in the EIM. This functionality is already available in the CAISO's day-ahead and real-time markets, in the context of both aggregated and non-aggregated resources. Powerex believes that leveraging this functionality in the EIM appropriately requires that NGRs used to model physical generation be subject to local market power mitigation provisions of the CAISO tariff. Although NGRs are not eligible to provide Resource Adequacy capacity at this time, Powerex supports CAISO exploring changes to this eligibility in the future.

Allow Submission of Base Generation Distribution Factors (GDFs) for Aggregated EIM Non-Participating Resources

CAISO currently allows—and participants currently utilize—the aggregation of electrically similar resources. Aggregation is permitted and used both in the context of EIM participating resources as well as non-participating resources. Base Generation Distribution Factor (GDFs) permit the CAISO to “map” an aggregated resource to a more granular unit-specific representation in its full network model. By allowing EIM entities to update GDFs on an hourly basis, participants will be able to provide CAISO with more granular information regarding the units that comprise the aggregate resource, and their relative proportion within the aggregate. Powerex supports this proposed enhancement as it improves the accuracy of the network model employed in the EIM.