

## **Post-Workshop Comments of Powerex Corp. on EIM Offer Rules: Resource Sufficiency Evaluation**

| <b>Submitted by</b>       | <b>Company</b> | <b>Date Submitted</b> |
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Powerex appreciates the opportunity to comment on the July 19, 2018 Energy Imbalance Market (“EIM”) Offer Rules Technical Workshop (“July 19 Technical Workshop”). These comments address issues related to the resource sufficiency (“RS”) evaluations; Powerex is separately filing post-workshop comments regarding default energy bids in the EIM.

Resource sufficiency is a core design principle of the EIM, intended to verify that each EIM entity is capable of meeting its energy, capacity, and flexibility needs with a high degree of certainty and without “leaning” or relying upon the availability of EIM transfers from other EIM entities. Powerex strongly supports this design principle as central to the success of the EIM as a voluntary market that complements, rather than undermines, the appropriate forward planning and procurement of resources by each EIM entity. Moreover, preventing “leaning” by any EIM entity is critical to ensuring equitable outcomes between differently-situated entities or regions.

In its prior written comments as well as in its presentations at the technical workshops, Powerex set out a range of concerns regarding the manner in which the resource sufficiency requirements in the EIM are being implemented. Specifically, Powerex cited three broad areas of concern:

1. The need for improvements to the RS procedures to provide entities with sufficient time and certainty of the resource requirements needed to satisfy RS;
2. The need to ensure the RS tests result in the CAISO BAA being held to the same evaluation standards as other EIM entities; and
3. The need for historical analysis and increased reporting regarding the RS tests.

Powerex understands that CAISO does not intend to address the concerns with the current EIM RS implementation raised by stakeholders in the workshops through a stakeholder process at this time. Although Powerex disagrees with this decision, Powerex appreciates the need for CAISO to prioritize its stakeholder initiatives in order to make the most efficient use of limited resources. Nonetheless, Powerex notes that

numerous concerns have been raised by stakeholders with the EIM RS framework, and Powerex believes that the written responses provided by CAISO are clearly insufficient to resolve those concerns. Powerex therefore urges CAISO staff to at least pursue a limited set of implementation—as opposed to policy—changes that can be made with limited effort and would respond to some of the concerns raised by stakeholders. Powerex also requests that CAISO conduct the historical analysis previously described to assess the accuracy of the RS requirement calculation for each EIM entity in each operating hour.

Finally, Powerex reiterates its recommendation that CAISO explore commencing a stakeholder process as soon as CAISO resources are available, to consider redesigning the RS tests to provide greater certainty and accuracy. While such a redesign goes well beyond the limited functional improvements CAISO should implement quickly, Powerex believes such a redesign is necessary in order to more fully address the significant concerns about the current formulation and application of the RS tests.

***Functional improvements to the RT tests should be implemented promptly***

While Powerex continues to believe that experience with the RS tests indicates the need for some comprehensive enhancements, CAISO's decision to not convene a formal stakeholder process on this topic does not eliminate the opportunity to pursue *any* improvements. Indeed, there are some targeted changes that would be straightforward to implement, and would unambiguously increase the accuracy of the RS tests. Specifically, Powerex believes the following functional improvements to the RS tests should be pursued without delay:

- Replace the histogram-based approach to determining uncertainty associated with wind output with an approach based on the value of the forecast output. This approach is more appropriate since the distribution of wind output is not well-described based on the hour of the day.<sup>1</sup>
- Include any systemic load biasing in the load forecast used for the RS evaluation of each EIM entity. CAISO's response that load biasing "can change by interval and are not guaranteed to be predictable"<sup>2</sup> may describe many instances where operator adjustments to load forecasts is infrequent and exhibits no clear pattern. But it is also well-documented that load biasing in certain cases, particularly for

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<sup>1</sup> Powerex April 30 Workshop Comments at 3 and Appendix A at 6-7 ("Issue 1")

<sup>2</sup> CAISO Response to Stakeholders, at 7.

the CAISO BAA, occurs frequently and follows highly predictable patterns.<sup>3</sup> The predictable level of material and persistent load biasing should properly be included in the RS evaluation of each EIM entity. Conducting the RS tests with a load forecast that is clearly systemically lower than the load forecast actually used for EIM dispatch is simply *less accurate* and *enables EIM leaning*.

- Ensure the RS tests properly include identifiable physical resources.
  - This means including *only* physical supply for which the EIM entity has certain basic information, including the generation source and any transmission service necessary to effect delivery of the resource to the EIM entity's location. In the case of the CAISO BAA, this would mean including all available internal supply, as well as all external supply for which an e-Tag has been submitted by the time of the RS test.<sup>4</sup> As CAISO notes in its response to stakeholders<sup>5</sup>, this would continue to include all external CAISO supply that is 15-minute dispatchable (since CAISO rules require e-Tags for such supply by T-40), but would exclude any hourly supply that was awarded in the day-ahead or hour-ahead processes for which an e-Tag has not been submitted.
  - As proposed at the July 19 Technical Workshop, this could also include further consideration of whether certain physical supply identified as Available Balancing Capacity (but not bid in as a participating resource) could be counted towards RS to avoid concluding that an EIM entity is resource deficient when, in fact, physical resources are available but have not been offered into the EIM.

Each of the above targeted changes would increase the accuracy of assessment of both the *need* for energy, capacity and flexibility, as well as the *supply* of each attribute available to each EIM entity. There should be broad consensus that any procedure or practice that understates demand and/or overstates available supply will reduce the accuracy of the RS tests and weaken the protections the test is intended to provide. Consequently, Powerex believes each of the above improvements should be implemented as soon as possible.

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<sup>3</sup> Powerex April 30 Workshop Comments at 5 and Appendix A at 11-12 ("Issue 6")

<sup>4</sup> Powerex notes that an e-Tag is not the only way for an EIM entity to obtain information regarding generation source and transmission; but it is Powerex's understanding that this is the only way such information is communicated to CAISO under its current rules.

<sup>5</sup> CAISO Response to Stakeholders, at 7.

### ***Enhancing transparency and assessment of the RS tests***

Powerex believes all EIM participants and stakeholders would benefit from increased transparency regarding the performance of the RS tests. Powerex appreciates that, going forward, CAISO has committed to providing more complete reporting of RS performance by all EIM entities, including the CAISO BAA.<sup>6</sup>

Powerex also believes that the accumulated operating experience of the EIM offers a valuable opportunity to evaluate whether the RS test requirements are consistent with the design objective of a 95% confidence level for each BAA for each operating hour of the day. To the extent the RS test requirements have historically *overstated* the capacity and flexibility needed in each hour to meet the needs of an EIM entity more than 95% of the time (perhaps further examined for each operating hour of the day), then there is an opportunity to reduce the burden faced by EIM entities to ensure they do not “lean” on other participants. By the same token, to the extent the RS test requirements have historically *understated* the capacity and flexibility needed in each hour to meet an EIM entity’s needs more than 5% of the time (again perhaps further broken down for each operating hour of the day), then the protections against leaning are likely not being fully met. Powerex therefore requests that CAISO perform a historical analysis comparing the RS test requirements for capacity and flexibility for each BAA to the actual intra-hour peak needs that were experienced for each operating hour of the day.<sup>7</sup>

### ***More comprehensive enhancements to the RS tests will continue to be needed***

Powerex believes the above functional enhancements, reporting, and historical analysis can provide important but incremental improvements in the accuracy of the RS tests. But EIM entities will continue to face unnecessary complexity and uncertainty in meeting the RS requirements, and there will continue to be concerns regarding whether capacity and flexibility are being counted correctly. Powerex urges CAISO staff to continue exploring whether the existing RS tests should be replaced by a simpler, more workable, and more transparent approach. The key elements of such a replacement set of RS tests would be:

- “Freeze” each EIM entity’s RS requirements associated with load and renewable output at an earlier point in time (e.g., T-90), thus providing each EIM entity a

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<sup>6</sup> CAISO Response to Stakeholders, at 5.

<sup>7</sup> Powerex April 30 Workshop Comments at 5 and Appendix A at 12-13 (“Issue 7”). Powerex notes that CAISO has agreed to coordinate discussions with stakeholders on such analysis, but has made no commitment beyond that step.

meaningful opportunity to adjust its resource plan and EIM market bids and offers to satisfy the requirements.<sup>8</sup>

- Eliminate the use of the last 15-minute interval of the prior hour as the “starting point” for assessing the flexible capacity needs of the upcoming hour. This improperly conflates the concepts of stand-alone resource sufficiency with the EIM’s dispatch of resources for EIM transfers to or from other entities.<sup>9</sup> If, as CAISO states, it seeks to evaluate whether hour-to-hour changes in base schedules are ramp feasible,<sup>10</sup> this can be done by comparing the changes in base schedules from one hour to the next. Powerex believes that any potential concerns over the accuracy of base schedules as a starting point for this assessment would be more than offset by the improved certainty and reduced burden of the test. And as discussed below, the use of the 15-minute market solution “snapshot” itself raises significant accuracy concerns.
- Eliminate the use of flexible capacity “credits.” These are only necessary today as a result of using the market solution for the last 15-minute interval of the prior hour as the starting point for the RS test. By designing RS tests that do not use the EIM market solution as an input (as discussed above), there will no longer be a need to “unwind” the effect of EIM transfers, thus avoiding the concerns expressed that these credits result in large amounts of double-counting of flexible capacity.<sup>11</sup>
- More clearly delineate the capacity test (to meet maximum intra-hour peak load) and the flexible ramping test (to meet intra-hour changes in load and resource output).<sup>12</sup>

Powerex recognizes that such changes would likely benefit from additional stakeholder consultation, and that CAISO has decided to not hold a stakeholder process on this initiative at this time. Nevertheless, Powerex encourages CAISO to continue to further consider and seek informal stakeholder input on a more comprehensive set of enhancements, and to conduct a full stakeholder process as soon as CAISO resources are available.

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<sup>8</sup> Powerex April 30 Workshop Comments at 3 and Appendix A at 6-7 (“Issue 1”)

<sup>9</sup> Powerex April 30 Workshop Comments at 3-4 and Appendix A at 8 (“Issue 2”).

<sup>10</sup> CAISO Response to Stakeholders, at 7-8.

<sup>11</sup> Powerex April 30 Workshop Comments at 4 and Appendix A at 8-9 (“Issue 3”)

<sup>12</sup> Powerex April 30 Workshop Comments at 3 and Appendix A at 6-7 (“Issue 1”)