# Energy Imbalance Market Design
# Second Revised Straw Proposal

| Submitted by | Company | Date Submitted |
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| Gifford Jung | Powerex Corp. | July 30, 2013 |

Powerex is pleased to have this opportunity to provide these comments in response to the Energy Imbalance Market (EIM) Design Second Revised Straw Proposal ("Revised Straw Proposal"). Powerex's comments provided herein are supplemental to its previous comments submitted in this stakeholder process.

***CAISO is moving too fast, and providing insufficient details on key design elements***

Powerex continues to have concerns with the pace of this stakeholder process. Powerex believes that the successful design of an EIM, particularly one that is layered on top of an existing OATT framework and well-established bilateral markets, requires careful consideration and thorough vetting with stakeholders and industry experts, on each design element. The complexity of integrating the two vast electric systems of CAISO and PacifiCorp under two very different market and operating models and the potential for significant unintended consequences to western wholesale power markets necessitates such an approach. In this context, Powerex is increasingly concerned that the CAISO's stakeholder process timelines are overly aggressive, which combined with design proposals that lack the necessary detail, potentially prevents the robust stakeholder process that this initiative clearly requires. It is far more important to design and execute a just and reasonable EIM than to have a quickly implemented EIM that did not consider important issues and potential side effects.

As a reasonable alternative, Powerex strongly suggests the CAISO develop and implement the EIM in phases, providing the ability to put off making final decisions on key issues that need additional time for careful consideration and dialogue with affected stakeholders. For example, in a first phase or pilot phase EIM the CAISO could consider providing restrictions on all flows between the CAISO and the EIM footprint, thereby reducing the number of issues that must be addressed prior to the full EIM launch date. This approach would allow more time for the CAISO and stakeholders to work through several complex EIM design issues that arise only under an EIM design that permits CAISO-EIM transfers, including (i) carbon charges, (ii) CAISO transmission charges, and (iii) necessary improvements to the CAISO's day ahead resource sufficiency framework. This phased in or pilot approach has worked well with other CAISO initiatives with inter-regional impacts such as the dynamic scheduling of imports.

Powerex's remaining comments are focused on areas of greatest concern with the Second Revised Straw Proposal. However, there are several areas of the Second Revised Straw Proposal where Powerex is supportive and several areas where Powerex has more questions.

Powerex has not addressed all matters in these comments given the limited time available to prepare comments. Powerex hopes to have additional opportunities to ask more questions and submit additional comments in the coming weeks and months as the CAISO hopefully provides more details on its EIM proposal, including illustrative examples on all key elements.

### *EIM Transmission Usage and Cost Allocation must be consistent with FERC's Non Discriminatory, Open Access Transmission Policies*

Powerex provided substantive comments on EIM transmission design issues on the First Revised Straw Proposal which have not yet been addressed. Powerex understands that the CAISO is currently evaluating these comments and intends on providing an update to its EIM transmission design proposal in the next revised straw proposal. Powerex also provided substantive comments in PacifiCorp's stakeholder process on both PacifiCorp OATT charges under the EIM, and the treatment of EIM congestion revenues. Powerex also awaits PacifiCorp's response to these comments and an updated proposal on EIM transmission cost allocation as well as EIM congestion revenue allocation in the PacifiCorp footprint.

Powerex provides the following additional comments on EIM transmission design for the CAISO and other stakeholders' consideration.

OATT Usage Priorities Must Be Respected

First, the CAISO and PacifiCorp should address the potential for EIM transmission use to conflict with OATT usage priorities. Several circumstances will arise under the current EIM design that may result in EIM transfers on OATT transmission paths in periods where higher priority OATT customers have been curtailed, in violation of the transmission priorities established by FERC in the pro forma OATT. For example, under the contract path model, a transmission provider may curtail firm OATT customers ahead of an operating hour based on the path rating and contract path scheduled usage, yet incremental EIM flows may occur since the EIM evaluates ATC based on actual flows (which may be less than scheduled flows) resulting in additional ATC available for EIM transfers. Similarly, WECC's USF procedures may result in OATT curtailments to accommodate expected unscheduled flows in the upcoming operating hour based on contract path schedules and transmission path ratings, yet incremental EIM flows may occur if transmission capacity becomes available in the EIM (similarly based on actual path flows being lower than scheduled flows).

Second, the CAISO's existing market design should be designed to recognize OATT usage priorities. Instead, the CAISO has developed rules and/or business practices in its markets that undo OATT usage priorities on adjacent transmission providers' systems, largely resulting from CAISO's efforts to increase liquidity in its markets, and hence increase the value of CAISO transmission rights (CRRs). For example, the CAISO should, but does not, require day ahead e-tags for day ahead physical interchange schedules. Not requiring day ahead e-tags by-passes the transmission usage priorities established under external transmission providers' OATTs and business practices. By not requiring day ahead e-tags, the CAISO enables non-firm transmission rights (typically released on adjacent transmission providers' systems after the day ahead scheduling timeframe) to compete directly with firm transmission rights in the CAISO's

day ahead markets, in direct conflict with the usage priorities established in the pro forma OATT. While this approach has proven to only marginally increase liquidity in CAISO day ahead markets[1], it has negative implications for developing day ahead resource sufficiency requirements applicable to the CAISO in the EIM.

More specifically, this lack of a day ahead e-tag requirement means that the CAISO is enabling and incenting *resource insufficiency* behind its day ahead import schedules. In fact, the CAISO has openly recognized that it does not even require firm physical import awards in its day ahead market to have ***any*** committed generation capacity or transmission rights to ensure delivery on such awards. This day ahead import *resource insufficiency* may result in the CAISO leaning on the EIM footprint to backfill day ahead import awards that may not show up in real-time. In addition, resulting failures to perform on CAISO day ahead import schedules also contribute to real-time price spikes in CAISO markets, and can significantly drive uplift costs, some of which may be allocated to EIM participants. This lack of a day ahead e-tag requirement for CAISO interchange schedules also raises serious reliability issues today, as it appears to be in conflict with the recommendations made by FERC/NERC in response to the September 8th blackout event for increased day ahead situational awareness and transparency. In short, the CAISO's lack of a day ahead e-tag requirement unwinds OATT transmission priorities external to CAISO, undermines operational transparency, increases reliability risks for the western interconnect, and eliminates the ability to develop a robust resource sufficiency framework to prevent leaning on the EIM.

Third, Powerex understands the CAISO's EIM dispatch design will not rely upon "as available" transmission as originally described by the CAISO, but rather will allocate transmission usage to EIM dispatches on a level playing field with dispatches in its real-time 15-minute market. Moreover, EIM and CAISO real-time dispatches will be agnostic to transmission usage priorities established under external transmission providers OATTs, consistent with the CAISO's long-standing approach of ignoring external OATT usage priorities in its markets.

The economic consequences of permitting the CAISO to continue its approach of ignoring external OATT usage priorities in its market design, and expand this approach to the EIM, will ultimately fall upon ratepayers external to CAISO markets. Nullifying the value of, and muting the price signal for investment in, OATT long-term firm transmission rights will inevitably result in lower third party revenues for external transmission providers, increasing transmission costs for native load in these external regions. For some transmission providers, this potential loss of third party transmission revenue may exceed the expected overall efficiency benefits of the EIM.

Powerex urges the CAISO to develop rules in its markets and in the EIM which respect the transmission investments and transmission priorities on external transmission providers' systems. In Powerex's view, the CAISO's proposal to become a multi-state market operator necessitates such a shift in the CAISO' s approach to the treatment of external transmission rights. The CAISO should make amendments to its existing market rules, and to its proposed

[1] Powerex's analysis of transmission usage data for 2012 shows less than 5% of all schedules on BPA's southern interties were delivered on BPA non-firm southern intertie transmission.

EIM design, with the objective of sending ongoing appropriate price signals for investments in transmission both within, and external to, the CAISO transmission grid. Powerex believes there are several steps the CAISO should undertake in this regard.

First, the CAISO should require day ahead e-tags for all interchange schedules in its day ahead markets. This will improve reliability via increased transparency and coordination with external balancing authorities and transmission providers and be an important step towards a robust CAISO day ahead resource sufficiency framework - a pre-requisite, in Powerex's view, to enabling CAISO-EIM transfers.

Second, Powerex suggests the CAISO either (i) block EIM transfers on transmission paths where there have been curtailments to OATT customers in the same dispatch interval (unless these OATT customers curtailed schedules have first been restored) or (ii) propose a compensation framework that economically keeps the OATT customer whole via congestion-type payments from the EIM transmission customer that, in effect, uses curtailed OATT transmission rights.

Third, Powerex suggests the CAISO consider expanding the ability for OATT customers to have the option to sell their transmission to the CAISO on a quarterly basis, in exchange for day ahead congestion revenues on a respective path, consistent with the design developed and implemented by the CAISO and PacifiCorp on the Malin to Round Mountain transmission path. Under such a "sale arrangement", the CAISO could then freely dispatch the respective transmission path in all its temporal markets, including the EIM, without additional compensation or the need to recognize OATT priority usage rights. This approach would continue to encourage investment in long-term firm transmission service on congested transmission paths external to CAISO's grid; provide third party OATT revenues that reduce transmission funding requirements for native load on external transmission providers systems; and enable the CAISO to centrally dispatch a broader transmission grid efficiently in all temporal markets without incurring any uplift.

<u>"Free EIM Transmission" is unnecessary, inconsistent with FERC precedent, and, if approved, will lead to undesirable, unintended consequences</u>

In previous comments, Powerex set forth an approach that would apply the CAISO's current intertie transmission cost allocation framework to EIM transfers in a manner directly consistent with the treatment of non-EIM transfers in the CAISO's day ahead and real-time markets. More specifically, Powerex proposes that the CAISO include its Transmission Access Charge (TAC) in the LMPs associated with incremental export flows from the CAISO footprint to the EIM footprint (reductions to import flows would be exempt, consistent with the CAISO's existing transmission cost allocation for non-EIM transfers). This approach would enable non-discriminatory, open access to transmission for both EIM and non-EIM users of the transmission grid, allocate costs consistent with cost causation and usage of the transmission system, and avoid undesirable and unintended consequences that will otherwise arise from providing a powerful transmission cost subsidy to a select group of customers in a particular temporal market.

There are numerous appropriate efficiency benefits that may be realized from the effective design of an EIM, without the need to provide discriminatory access to, or discount pricing of, transmission. For example, generation, load and transmission transparency and coordination across the EIM footprint can provide economic efficiency gains and reliability benefits and should be pursued. Similarly, enabling the centralized dispatch of generation resources and transmission in an EIM without the need to pre-arrange the procurement and scheduling of short-term transmission rights may also provide significant efficiency benefits, and should be pursued. Shifting transmission costs from participants balancing their resources and loads in the EIM to those conducting such activities outside the EIM, however, is nothing more than a transmission cost subsidy from one group of participants to another, and must be abandoned. There simply is no legitimate reason for 5-minute and 15-minute CAISO export transfers in the EIM to be exempt from CAISO transmission costs, while 5-minute, 15-minute and hourly CAISO export transfers in the CAISO's day ahead and real-time markets are charged the CAISO TAC.

FERC precedent on the issue of transmission cost allocation for energy imbalance and generation imbalance is clear. FERC has repeatedly, both in complaints brought before the Commission, and in Order 890, reiterated the requirement that all transmission customers pay for their use of the transmission grid, including for transmission use associated with generator imbalance and energy imbalance services. In fact, FERC has even required transmission providers to assess unauthorized usage charges under their respective OATTs for use of the transmission system in excess of the rights reserved and paid for, regardless of whether such usage is associated with energy imbalances and/or generator imbalances. Absent a change in FERC policy, providing energy imbalance and/or generator imbalance services via an EIM must also attract appropriate transmission usage costs, consistent with cost causation and pay-for-usage of the transmission system. Any other result is unjust, unreasonable, unduly discriminatory and inconsistent with the Federal Power Act.

***The proposed EIM Resource Sufficiency framework is insufficient***

In the CAISO's Second Revised Straw Proposal, the CAISO has modified its resource sufficiency framework. Specifically, Powerex understands the CAISO proposes:

1) A real-time incremental ramping resource sufficiency test for each EIM Entity conducted prior to participation in EIM energy dispatches. This test is intended to ensure that each EIM Entity has the ability to meet its own potential upward variations in load and/or downward variations in generation resource output.

2) A block on transfers between an EIM Entity's footprint and the remainder of the CAISO/EIM footprint for any EIM Entity that fails this real-time incremental ramping resource sufficiency test.

3) A penalty framework for inaccurate load forecasting data submitted into the EIM (as base schedules) that are used as data inputs in this real-time incremental ramping resource sufficiency test.

Powerex believes the CAISO's modified approach to prevent EIM leaning is a step in the right direction. However, Powerex remains concerned that the CAISO's resource sufficiency

framework is deficient in several regards and must be modified, particularly prior to enabling CAISO-EIM transfers. Failure to appropriately address resource sufficiency can, and undoubtedly will, lead to EIM leaning as participants seek to lower their day ahead and real-time capacity commitment costs in the hopes there will be sufficient capacity available, at no additional cost, in the EIM.

Resource Sufficiency Tests must be both day ahead and real-time

It is a well-established principle in RTOs across the country that generation capacity sufficiency must be achieved both day ahead and again in real-time to protect reliability of the grid. Day ahead resource sufficiency is necessary due to the lead time required to start-up and deliver energy from many generation units on the grid. Relying on the commitment and start-up of generating units solely in real-time to meet expected load may lead to reliability risks. Real-time resource sufficiency is also required due to changes in load forecasts, changes in variable resource output, as well as generation and transmission contingencies on the grid that may all occur after the day ahead market and day ahead resource sufficiency processes are completed.

Both a day ahead and real-time resource sufficiency framework are notably absent in current NERC and WECC reliability standards and hence no standardized resource sufficiency framework generally exists outside organized markets, particularly in the western bilateral markets operating under OATTs. Nonetheless, FERC has required, and subsequently approved, robust resource sufficiency frameworks in most organized markets across the country. Powerex believes one reason day ahead and real-time resource sufficiency frameworks are mandatory in organized markets, yet lacking in the bilateral markets, is the increased likelihood for participants to anonymously "lean" on the broader organized market under the belief that someone in the footprint will have surplus ramping capability to meet their capacity deficiency and maintain reliability of the broader grid.

The EIM will be an organized market, and absent a robust resource sufficiency framework both day ahead and real-time, should be expected to attract "capacity leaning" by participants seeking to avoid capacity commitment costs in their source balancing authorities. The CAISO has recognized the risk and harmful reliability consequences of such EIM capacity leaning activities, and in its Second Revised Straw Proposal, proposes to prevent EIM capacity leaning via applying a real-time incremental ramping resource sufficiency test, and blocking leaning activities for any EIM Entities that fail this test. While this is a step in the right direction, this approach provides little time for an EIM Entity that fails this test to take alternative action such as starting its own generating units to maintain reliability of its own footprint. Of course, any resulting reliability issues are not easily contained within the respective EIM Entity's own footprint and thus the reliability of the western interconnect may be placed in jeopardy during such events.

A robust day ahead resource sufficiency framework exists in virtually every organized market in the US. Powerex understands that the SPP also applied a resource sufficiency framework in

the day ahead timeframe to its EIM[2]. In Powerex's view, it is imprudent to move forward with an EIM without a robust day ahead and real-time resource sufficiency test applicable to all EIM Entities (and to the CAISO itself), providing sufficient time for resource insufficiencies to be addressed through the commitment of additional generation capacity.

CAISO must also apply the resource sufficiency test to its own market, which will require CAISO market changes (e-tagging timelines and well defined and adhered to energy product types)

Unlike the eastern ISOs/RTOs, the CAISO's current resource sufficiency framework contains serious deficiencies that enable participants to "lean" on the CAISO real-time energy market as a capacity backstop for day ahead and real-time import awards that may not be delivered. These deficiencies are largely the result of:

i) The CAISO's lack of a robust day ahead e-tagging requirement for physical interchange schedules.

ii) The CAISO's widespread acceptance of physical import schedules treated as firm or unit contingent energy products that may be subject to curtailment due to the economic choice to commit insufficient capacity in the source balancing authority.

Day Ahead e-tag requirement

Powerex understands that ISOs/RTOs across the country, generally either:

i) strictly require valid day ahead e-tags to be submitted for all physical interchange awards, or

ii) convert un-tagged day ahead physical interchange awards into financial awards and subsequently commit replacement generation capacity and allocate such capacity commitment costs to the importing participant.

These ISOs/RTOs appear to recognize that resource sufficiency cannot be achieved unless physical import awards are transparently backstopped with physical capacity and necessary transmission in the day ahead timeframe. This capacity must either be provided by the source balancing authority, as illustrated by valid day ahead e-tags, or by the receiving balancing authority through commitment and cost allocation of additional day ahead generation capacity in the sink balancing authority.

The CAISO's lack of a day ahead e-tag requirement for day ahead imports, can result in participants "leaning" on the CAISO and/or western real-time bilateral markets to make up the capacity the CAISO has relied upon to meet its day ahead firm load forecasts. This occurs when the importer does not secure resources day ahead to ensure delivery of their day ahead CAISO import obligation and, instead hopes to purchase the power bilaterally in the operating day to fulfill the obligation. Alternatively,

[2] SPP has designed and implemented an EIM, like the one CAISO is proposing, on top of an existing bilateral market that previously lacked a resource sufficiency framework.

importers may also expect to liquidate the import and have the CAISO dispatch resources in real time to make up the shortfall in supply resulting from the reduced import. The reliability risk with this activity is that neither the CAISO, nor any other balancing authority outside the CAISO is generally aware of the participant's lack of day ahead capacity commitment, and hence no replacement units have been specifically committed day ahead to make up this shortfall. This could have severe reliability impacts if such activity was to occur during periods where no additional fast-starting units are available. Failure to address this existing deficiency in CAISO markets will result in the CAISO potentially meeting this capacity shortfall via also leaning on the EIM, during the periods when these day ahead imports fail to show up.

As previously discussed, EIM leaning has both reliability and market efficiency consequences, including EIM leaning activities by the CAISO itself.

Well-defined, adhered to, interchange energy product types

Similarly, capacity insufficiency may arise from imports that are relied upon by the CAISO as firm, or unit contingent supply but are, in reality, supply deliveries that are subject to interruption in a wide variety of circumstances (i.e. beyond contingency events that are adequately covered by pooled contingency reserves). The CAISO currently has three energy product types in its market - firm, unit contingent, and non-firm. However, the CAISO has not adequately defined the delivery requirements for each of these product types in its tariff, despite the disparate tariff settlement treatment. Accordingly, widespread delivery of VERs as both firm and unit contingent products to the CAISO, without sufficient ramping capacity committed at the source BA, is increasingly occurring.

When these import schedules are ultimately curtailed in real-time, the CAISO is forced to make-up the energy and capacity shortfall through leaning on its own real-time market, or in the future, on the broader EIM footprint.

Powerex recommends the CAISO re-define and ensure adherence to well-defined energy product types in its day ahead and real-time markets. This will transparently enable both the sufficient and efficient commitment of generation capacity in either the source BA or in the CAISO in both the day ahead and real-time market timeframes to backstop VER production.

CAISO leaning on the EIM to backstop its import delivery failures that result from the CAISO's lack of a day ahead e-tagging requirement and/or tolerance of widespread curtailments to firm and unit contingent import schedules should not be tolerated as part of the EIM design. Powerex believes CAISO/EIM transfers should not proceed until a robust day ahead and real-time resource sufficiency framework is in place, and applied to both the CAISO and EIM Entities.

Penalties for load under-scheduling are appropriate, but should escalate based on size of deviation. Similar penalties must also apply to over-statement of generation and/or import capacity.

The CAISO has appropriately identified the potential for generation capacity shortfalls (EIM leaning) to arise from inaccurate load forecasts provided by EIM Entity's. An EIM Entity may appear to be balanced and pass the CAISO's resource sufficiency test based on its submitted generation, interchange and load forecasts, yet may be capacity insufficient, if it understates its load forecast in this process. The CAISO proposes penalties to be applied to EIM participants that have significant negative deviations in actual load from scheduled load. Powerex supports this approach but recommends that the CAISO escalate these penalties based on the magnitude of the load under-scheduling activity.

A similar EIM leaning possibility also exists from the over-statement of generation and/or over-statement of import deliveries. For example, materially overstating a VER forecast or including interruptible imports as firm imports in the EIM Entity's base schedules may enable an EIM Entity to pass the resource sufficiency test, yet be similarly resource deficient to an EIM Entity that overstates its load forecast. Powerex therefore urges the CAISO to develop a similar penalty framework applicable to the overstatement of generation and/or imports by EIM participants to address inaccurate supply forecasting. There is no materially different impact to reliability or market efficiency between the understatement of load forecasts and the overstatement of generation / import forecasts - both approaches undermine the resource sufficiency framework. This penalty framework should also escalate depending on the magnitude of variance between the generator/importer forecast and the corresponding CAISO forecast, with exemptions from penalties for participants who utilize the CAISO's VER generation forecasts and/or a strictly objective method such as VER persistency or third-party VER forecasts verified by CAISO. Import deviations should be treated in a manner consistent with this proposed treatment of generation resource deviations.

Blocking transfers is an acceptable preventative approach

Powerex supports the CAISO's approach to blocking inter-BA EIM transfers with BAs that fail the EIM resource sufficiency test. However, as previously discussed, this blocking should be applied day ahead to ensure the respective EIM entity has the time necessary to commit its own resources to protect reliability. Similarly this blocking should also be applicable to the CAISO, until it rectifies the day ahead resource sufficiency framework deficiencies in its own market, as described above.

### *CAISO's proposed EIM carbon intensity calculation is inconsistent with CARB's program design*

In its previous comments in this stakeholder process, Powerex raised numerous questions associated with the CAISO's proposed treatment of carbon. Powerex understands that the pace of this stakeholder process may not have afforded the CAISO the ability to address these questions, but hopes that the CAISO will respond to Powerex's previous comments and questions in the coming weeks.

Upon greater reflection and understanding of the CAISO's EIM carbon proposal, Powerex's primary concern is centered on the unit-specific carbon intensity assigned to EIM awards that are selected by the CAISO algorithm to be deemed to be delivering EIM energy into the CAISO footprint. As stated by Dr. Bill Hogan, and referenced by the CAISO's MSC, the CAISO's EIM carbon algorithm is designed to achieve efficient resource shuffling.

While the CAISO's approach may be internally consistent and perhaps even drive efficient energy market outcomes, it will not send substantive price signals to EIM participants to reduce higher carbon intensity generation output and/or the development of higher carbon intensity facilities outside of California. To the contrary, the CAISO's algorithm will likely send powerful price signals to significantly increase resource shuffling not only in the EIM but in temporal markets prior to the EIM - it should be expected that EIM participants will increase the carbon intensity of their EIM base schedules in order to save low-carbon intensity generation output for the EIM. For example, a participant with significant coal and natural gas generation should be expected to increase its reliance on this generation (as well as increase its reliance on higher carbon intensity imports) to serve its obligations outside the CAISO footprint, as represented by its EIM base schedules, in order to save its lower carbon resources, such as hydro-electric output, for the EIM.

This price signal may create a strong incentive for suppliers to move their transactional activity out of the day ahead and hour ahead markets and into the EIM which would allow them access to a substantially more efficient method to capture the value of the low GHG supply within their portfolios. An EIM participant, through experience, may even seek to build or enter into long-term contracts for higher carbon intensity resource output to meet its load obligations outside the CAISO, so that it may "free-up" its lower intensity resources for offer into the EIM on an ongoing basis.

By deconstructing a coordinated energy system to its component individual generators in the EIM, the CAISO carbon algorithm efficiently unwinds other mechanisms CARB has put in place to address the import of system power into California, including the calculation for the carbon intensity of Asset Controlling Suppliers and the proposed Mandatory Reporting Regulation to address high intensity system power imports (§ 95111.b.5).

CARB's carbon intensity calculation for Asset Controlling Suppliers is a weighted average intensity of all applicable imports and generation output of the ACS entity. This approach is in contrast to the CAISO's EIM carbon proposal, which assumes the lowest carbon intensity output is delivered to California and the higher intensity output is delivered to loads outside California. Put another way, applying the logic behind the CAISO's proposed EIM carbon algorithm to the Asset Controlling Supplier calculation would likely lead to both BPA and Powerex - the two asset controlling suppliers for 2013 - having a carbon intensity of zero, as both entities' zero carbon intensity resources would be deemed to serve California with their non-zero carbon intensity resources deemed to serve load outside California.

The outcome of applying the CAISO's EIM carbon algorithm as proposed may be viewed by some as impeding CARB's statutory requirement to minimize leakage via administratively executed efficient resource shuffling in the EIM. Powerex believes a more appropriate

approach, and one that is consistent with CARB's current program design, may be to consider applying either a weighted average carbon intensity for each EIM Entity (similar to the current ACS calculation or to CARB's proposed Mandatory Reporting Regulation for "System Power Imports" § 95111.b.5), or alternatively using the unspecified carbon intensity for all imports into California in the EIM. Further work would be necessary to evaluate how to apply such non-zero, non-generator specific, carbon intensities to EIM dispatches in a manner which avoids unintended outcomes in both the energy and carbon markets.

***Applying LMPM to an EIM is unnecessary and will reduce EIM participation***

Powerex remains concerned that the application of local market power mitigation in the EIM is both unnecessary and will likely reduce EIM participation. Unlike the CAISO footprint where local loads must rely on the CAISO's organized markets to meet their demand (and hence may be exposed to localized market power in the CAISO's markets), loads outside of the CAISO footprint generally have access to cost-based supply from their local utility as well as access to competitive wholesale markets. Accordingly, choosing to purchase energy in the EIM is voluntary, in the same manner in which supply offers are voluntary, and hence there is no apparent need to mitigate prices that are below FERC-approved price caps - loads are simply not exposed to local market power in the EIM footprint outside the CAISO, since they have both alternative cost-based supply options as well as access to competitive western wholesale power markets.

Mitigating prices of generators located outside the CAISO is not only unnecessary, in Powerex's view, it is likely to result in a reduction in EIM participation as generators outside CAISO are generally able to sell their supply into the most attractive temporal and geographic markets available in the WECC, without being exposed to any price mitigation below their respective offer prices and/or FERC price caps or other limitations and conditions of the EIM entity's market based rate authority. Since any price mitigation level or formula will undoubtedly be imprecise relative to each external generator's dynamic opportunity cost in western real-time wholesale energy markets, external generators may often be reluctant to offer supply into the EIM, out of fear of uneconomic price mitigation below their opportunity costs, which can change hourly. For example, during periods of high, unanticipated real-time prices in the western interconnect, it is unlikely that any local market power mitigation formulas will be able to accurately reflect the opportunity cost of generators in these markets. Accordingly, any LMPM applied to the EIM, will create a disincentive for generators with access to external markets to submit supply offers into the EIM. Further, any generator dispatches at mitigated prices may be utilized to serve demand for which the generator has no statutory obligation to serve - i.e. arm's length demand that is voluntarily chosen to source its supply in the EIM.

Powerex believes the CAISO should abandon its LMPM in the EIM or further explain the rationale for requiring LMPM in a voluntary EIM market.

Powerex appreciates this opportunity to comment on the CAISO's Second Revised Straw Proposal and looks forward to additional stakeholder meetings and opportunities to address the EIM initiative.