

**Comments of Powerex Corp. on
Real-Time Market Neutrality
Draft Final Proposal and Draft Tariff Language**

Submitted by	Company	Date Submitted
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Powerex appreciates the opportunity to comment on the May 30, 2019 Real-Time Market Neutrality Settlement Draft Final Proposal and Draft Tariff Language (“Proposal”).

In this stakeholder process, CAISO seeks to address a series of serious, fundamental, unintended flaws in its financial settlement of EIM transactions. What has become clear thus far is this: core elements of the EIM have not been settled as intended—elements that serve as part of the basis for EIM entities’ cost-benefit analyses and participation. Indeed, these unintended settlement flaws have produced results that are contrary to some of the most important design principles of the EIM:

- costs associated with California’s greenhouse gas (“GHG”) cap-and-trade program have been applied to the EIM imports of entities located entirely outside of California;
- the GHG revenues that should have been associated with clean resources being “deemed delivered” to California in the EIM—resources that have affirmatively elected to incur reporting and compliance obligations in California—have been entirely clawed back in settlement through other charge mechanisms;
- the most flexible EIM resources—those routinely responding to EIM five-minute dispatches, largely to meet peak load ramps and manage oversupply *in the CAISO BAA*—have not received the tariff-specified price for their intra-hour flexibility; and
- uplift account balances associated with unaccounted for energy (“UFE”) that is clearly resulting from transmission losses *within* an applicable EIM Entity BAA have been incorrectly transferred predominantly to the CAISO BAA but also to other EIM Entity BAAs.

While Powerex applauds CAISO’s initiation of this proceeding and the intensity of its efforts over these past several weeks, CAISO has not adequately responded to stakeholder concerns regarding (i) the pace of this stakeholder proceeding, (ii) the need for additional time for stakeholder review given the complexity of the issues being addressed, and (iii) the need for details on the specific market harms that have occurred to date. As a result, EIM entities appear to face an uphill battle to achieve a complete, transparent, and robust stakeholder process on this important topic.

Although CAISO has not provided market participants with a quantitative analysis of these settlement errors, there are indications, based on publicly available data, that the identified flaws have inappropriately shifted tens of millions of dollars in costs and revenues among EIM Entities,

including the CAISO BAA. Some of these settlements errors appear to go back a little more than a year, while others go back significantly further, with some of the errors appearing to exist since the inception of the EIM in 2014. As a direct consequence of these flaws, a number of EIM entities, including Powerex, have been unjustly and materially harmed, incurring charges that appear to negate a significant fraction of the gross benefits of their EIM participation as calculated by CAISO. At the same time, some EIM entities have been net beneficiaries of these errors, with the CAISO BAA potentially the single biggest “winner”.

The CAISO’s decision to issue a Draft Final Proposal demonstrates that these serious settlement issues are not being addressed through a comprehensive stakeholder process, despite numerous stakeholder requests to do so. Powerex urges CAISO to reconsider its approach and timelines in this stakeholder process. When significant inaccuracies and systemic errors in settlements come to light, as they have here, Powerex believes that a robust and fully transparent response from the market operator is critical, and must include the following minimum core elements:

1. Ensure stakeholders have a complete technical understanding of the errors;
2. Conduct a comprehensive and transparent quantification of the impacts of each error on each entity;
3. Explore all available avenues to retroactively correct the errors;
4. Identify interim near-term measures that can prevent ongoing harm; and
5. Commit to developing more durable measures that achieve the intended design objectives in an accurate manner while minimizing the potential for unintended consequences.

To date, CAISO’s approach in this stakeholder process has focused exclusively on items 1 and 4. In these areas, Powerex acknowledges and appreciates that CAISO has (i) provided substantial explanation and examples of how the current settlements processes lead to erroneous results, and (ii) proposed to rapidly implement specific measures it believes will prevent the initially-identified errors from continuing to apply.

Powerex respectfully identifies three substantial defects in CAISO’s approach to this stakeholder process:

- First, **CAISO has not yet provided transparency regarding the magnitude of each error**, or even how many years’ worth of transactions may have been subject to these errors. Thus far, CAISO has put forward only a single aggregate number representing the combined impact of all errors on all entities, and only for a single calendar quarter. CAISO has not articulated any specific reason for declining to undertake a full and transparent analysis of the extent and impact of the settlements errors. EIM entities therefore cannot accurately answer basic questions about the financial impact of these errors, the extent to which these errors change prior estimates of EIM gross benefits (and internal estimates of EIM net benefits), or the anticipated impact on their ratepayers.
- Second, **CAISO has declined to consider retroactive corrections of these settlement errors**, or even to entertain a robust discussion of retroactive corrections. Where the CAISO’s settlements processes have failed to “get it right”, it should not be seen as

controversial for EIM entities to request CAISO to thoroughly explore, with stakeholders, potential avenues to “make it right.” Instead, CAISO has repeatedly been reluctant to facilitate any discussion of retroactive remedies, offering only a general assertion that these flawed settlements were consistent with the FERC-approved tariff, and therefore refunds are unavailable as a matter of law. At the very least, this is a topic that requires thorough dialogue with stakeholders, including an examination of the *specific* tariff provisions that may (or may not) speak to each of the *specific* sources of settlements error. In the event that genuine legal barriers to CAISO-administered refunds or retroactive corrections are identified for one or more of these settlement errors, Powerex urges CAISO to explore other approaches, such as offering to facilitate a negotiated global settlement among EIM entities.

- Finally, ***CAISO has thus far declined to commit to examining the shortcomings of its proposed near-term solutions or to commit to a second phase of the stakeholder process to develop more appropriate, durable measures***, even though CAISO appears to recognize that there may be unintended consequences with the quick implementation of its proposed measures. Such an approach risks cementing immediate stop-gap measures—developed, reviewed, and approved on an expedited basis—as the new long-term approach for financially settling EIM transactions. It is insufficient to relegate the development of durable solutions to the stakeholder catalog process, where they may or may not ever be prioritized. Powerex fully supports taking immediate interim steps to prevent further harm, but the nature of immediate solutions requires a concurrent commitment by CAISO to examine and develop appropriate long-term processes.

While the financial consequences of the specific flaws being addressed in this particular stakeholder process may affect each entity differently, ***all EIM entities, as well as the CAISO BAA, share an overriding interest in ensuring that EIM transactions are financially settled accurately, consistent with the intended market design.*** Settlement procedures go to the heart of the EIM’s value proposition, as well as to its reliance on financial incentives to drive efficient behavior and beneficial outcomes. It is absolutely vital for entities to be able to rely on the market operator to aggressively pursue all steps necessary to address material settlement errors when they occur.

Powerex therefore urges CAISO to reconsider its proposed response to the systemic flaws in its financial settlement of EIM transactions. Specifically, Powerex requests that CAISO:

- Undertake a comprehensive and transparent quantitative analysis of each type of identified error, including the specific date when the error began, and the financial impact on each EIM entity;
- Finalize a set of interim measures designed to prevent further harm and implement these concurrently with a commitment to develop appropriate long-term solutions through an immediate second phase to this stakeholder process; and
- Engage with stakeholders on a thorough examination of options to correct this past harm, including but not limited to settlement corrections, refunds, and/or a negotiated settlement.

Appendix A to these comments summarizes Powerex's preliminary estimates of the potential impact of the different types of settlements-related errors for the 12-month period ending March 31, 2019, separately for each EIM entity where possible. These preliminary estimates are based on publicly-available data and on Powerex's evolving understanding of the technical details for each type of flaw. Powerex believes these estimates provide a credible indication of the magnitude of each issue.

Appendix B to these comments outlines Powerex's recommendations regarding potential solutions to the identified settlements errors. In particular, Powerex believes a robust response to these issues requires (1) retroactive corrections for past errors, to the greatest extent possible; (2) interim near-term measures to limit ongoing harm; and (3) appropriate long-term enhancements that provide for accurate settlement of transactions in a manner consistent with the design principles of the EIM.

Appendix A — Calculation Methodology For Estimating Potential Financial Impact of EIM Settlements Errors

Powerex has undertaken a preliminary analysis based on publicly-available data to estimate the financial impacts of each of the identified flaws in the current settlements process. This preliminary analysis indicates that, for the 12-month period ending March 31, 2019, the erroneous settlements processes appear to have shifted as much as \$60 million or more between and among different EIM entities, including the CAISO BAA.

The table below summarizes Powerex’s preliminary estimates on the potential shifts in revenues and charges among EIM entities for each issue where an estimate based on publicly-available data is possible:

Issue	Estimated Impact, Apr. 2018 – Mar. 2019
EIM Transfer Financial Value Erroneously Includes GHG Price	\$31.9 million
Erroneous Clawback of GHG Attribution	\$22.9 million
Erroneous Clawback of Flexibility Revenue	\$10.1 million

Powerex emphasizes that the above numbers are preliminary estimates only, are necessarily limited to calculations based on publicly-available data, and are based on Powerex’s evolving understanding of the technical details of the processes for assessing real-time market neutrality. Powerex believes its estimates provide a credible but preliminary basis for concluding that the financial impact of the various settlements-related errors is substantial, but Powerex requests that CAISO provide the analytical and technical resources necessary to develop more precise values.

In order to enable other stakeholders as well as the CAISO to validate, correct, or reproduce Powerex’s preliminary estimates, the methodology and data sources used by Powerex for that above estimates are summarized below.

A. EIM Transfer Financial Value Erroneously Includes California GHG Cost

Summary: In evaluating the revenue neutrality of energy settlements, the CAISO assigns a value to EIM transfers into or out of an EIM entity. The System Marginal Energy Cost (“SMEC”) is used to calculate this value. However, the SMEC is defined as the energy price at a reference bus located within California, and therefore includes costs associated with the greenhouse gas (“GHG”) program administered by the California Air Resources Board. This overstates the value of EIM transfers to or from EIM entities outside of California, which are not subject to those GHG regulations.

Methodology: The design of the EIM separates compensation for energy output from compensation for attributing a GHG compliance obligation to resources that are deemed to serve load in California. In fact, GHG emissions can be attributed to a resource in an EIM entity that does not have any EIM transfers out, or may even have EIM transfers in during that interval. To reflect this separation, Powerex estimated the impact of applying the SMEC *minus* the GHG shadow price to value EIM transfers. Since the GHG shadow price is non-zero only when the CAISO BAA is a net importer of EIM transfers, intervals in which the CAISO BAA is a net exporter

of EIM transfers do not need to be considered. Powerex estimated the financial value of EIM transfers out that were over-compensated (*i.e.*, exports that inappropriately received the GHG shadow price) separately from the financial value of EIM transfers in that were over-charged (*i.e.*, imports that were inappropriately charged the GHG shadow price). The preliminary calculation is based on 15-minute data on EIM transfers for each EIM entity and the GHG shadow price, all of which are publicly available from the CAISO OASIS.

Preliminary Results (April 1, 2018 – March 31, 2019):

	FMM Exports When CAISO Imports		FMM Imports When CAISO Imports		Total	
	FMM Exports (MWh)	Overpayment (\$)	FMM Imports (MWh)	Overcharge (\$)	FMM Net Transfer (MWh)	Overpayment / (Charge), \$
AZPS	1,220,816	\$ 5,657,140	223,364	\$ (691,775)	997,452	\$ 4,965,365
Powerex	150,318	\$ 798,720	500,970	\$ (2,197,410)	(350,652)	\$ (1,398,690)
CISO	-	\$ -	4,189,129	\$ (22,895,938)	(4,189,129)	\$ (22,895,938)
IPCO	408,385	\$ 2,288,652	326,919	\$ (1,222,712)	81,466	\$ 1,065,940
NEVP	589,497	\$ 2,500,400	316,818	\$ (1,082,660)	272,679	\$ 1,417,740
PACE	2,404,640	\$ 12,005,695	72,669	\$ (98,183)	2,331,971	\$ 11,907,512
PACW	1,180,505	\$ 5,994,885	129,054	\$ (272,533)	1,051,450	\$ 5,722,352
PGE	259,010	\$ 1,063,594	511,208	\$ (2,193,045)	(252,198)	\$ (1,129,451)
PSEI	338,660	\$ 1,589,005	281,698	\$ (1,243,836)	56,962	\$ 345,169
	6,551,831	\$ 31,898,090	6,551,831	\$ (31,898,090)	-	\$ 0

Note: CAISO net losses of \$22.9 million described in this section are directly offset by the CAISO's savings associated with the erroneous clawback of GHG compensation described in section B below. In contrast, the gains or losses for each specific EIM Entity in this category are unrelated to the same EIM Entity's realized gains or losses resulting from the erroneous clawback of GHG compensation.

B. Erroneous "Clawback" of GHG Attribution Compensation

Summary: When assessing the revenue neutrality of imbalance energy, the current procedures include the revenue associated with GHG attribution. However, since these procedures do not reflect the value of accepting the GHG compliance obligation, the settlements process systematically determines that the settlements are not revenue neutral, and applies a neutrality charge that effectively negates the GHG compensation to resources in the EIM entity. In the case of non-emitting resources, this represents the erroneous clawback of the intended price premium for clean resources. In the case of GHG emitting resources, this represents the erroneous clawback of revenue intended to compensate for costs associated with complying with California's GHG Cap-and-Trade Program. Powerex notes that the impacts are even more severe in cases where the EIM entity does not own the specific generating resource receiving the GHG attribution. In such cases, the resource will receive GHG compensation, but this compensation will be funded by the (unaffiliated) EIM entity and its ratepayers rather than by purchasers in California.

Methodology: The aggregate value of GHG attribution compensation is estimated based on the volume of 15-minute EIM transfers into the CAISO BAA multiplied by the GHG shadow price in the same interval. It is Powerex's understanding that, all else being equal, each dollar of GHG

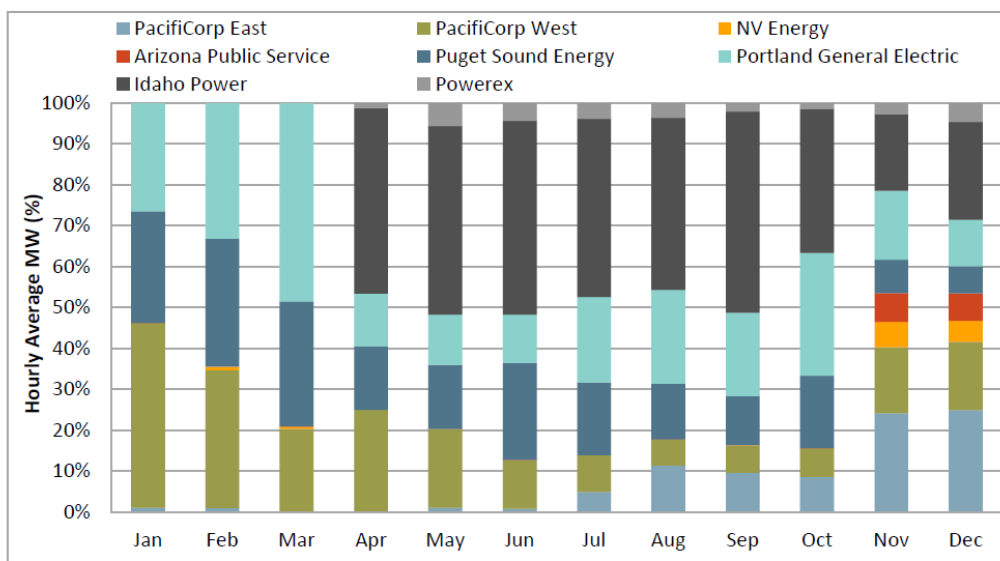
attribution compensation will translate into a dollar of neutrality charges to the EIM entity of the resource receiving the compensation.

Preliminary Results (April 1, 2018 – March 31, 2019):

	GHG Attribution (MWh)	GHG Attribution (\$)
EIM Transfers To CAISO BAA	4,189,129	\$22,895,938
GHG revenue clawed back from EIM Entities		(\$22,895,938)

Granular data regarding the location of resources receiving GHG attribution in each interval are not publicly available, and hence it is not possible to estimate the impact of this error on each individual EIM entity. However, DMM’s 2018 annual report contains monthly-level information regarding GHG attribution volume by EIM entity. This may provide some indication of the EIM entities most affected by the erroneous clawback of GHG revenues.

Figure 4.19 Percentage of greenhouse gas megawatts by area (2018)



Source: CAISO DMM, 2018 Annual Report on Market Issues and Performance, at 129.

It is worth noting that the sum of GHG revenue that was erroneously clawed-back from EIM entities is necessarily equal to the amount by which the financial value of EIM transfers into the CAISO BAA was overstated. That is, in the case of the CAISO BAA, the two GHG-related errors in the current settlement process are precisely offsetting. This is necessarily the case, as the volume of net EIM transfers into the CAISO BAA is required to equal the volume of GHG attribution to non-California EIM resources. While these two errors are inherently offsetting in the case of the CAISO BAA—effectively shielding the CAISO BAA from net financial impacts of these errors—the same cannot be said for any other EIM entity. As stated earlier, the volume of EIM transfers in or out of non-California EIM entities is not required to be the same as the volume of

GHG emissions attributed to resources within that EIM entity. For non-California EIM entities, then, the financial impact of these two GHG-related errors may be compounded and not offsetting.

C. Erroneous “Clawback” of Sub-Hourly Flexibility

Summary: When calculating the financial value of 5-minute EIM transfers, Powerex understands that the current settlement processes use the total hourly integrated value of those 5-minute transfers, effectively distributing that hourly quantity uniformly across each of the 12 individual 5-minute intervals. For EIM transfers that change within the hour, however, this can lead to inaccurate assessments of revenue neutrality, as the EIM transfer financial value may be greater than or less than the energy settlement performed with 5-minute granularity. EIM entities that increase 5-minute EIM transfers out as prices rise within an hour will tend to have the value of those transfers understated, and incur erroneous neutrality charges. By the same token, EIM entities receiving those EIM transfers will appear to have been charged “too much”, and erroneously receive a neutrality credit.

Methodology: Powerex’s preliminary analysis is limited to EIM transfers between EIM Entities and the CAISO BAA, as Powerex understands that this issue may not arise on transfer paths that do not include the CAISO BAA.

Powerex used publicly-available data on 5-minute EIM transfers into or out of the CAISO BAA at each EIM intertie, and calculated the value of these transfers (based on the SMEC) in each 5-minute interval. Powerex then calculated the value of those EIM transfers using the simple hourly average quantity during the respective hour. The difference between these two valuation approaches is the preliminary estimate of the neutrality charges or credits due to the current process’s failure to value EIM transfers in each 5-minute interval. Based on the methodology described above, it appears that the CAISO BAA may have received an erroneous neutrality credit of approximately \$10.1 million:

Preliminary Results (April 1, 2018 – March 31, 2019):

EIM Entity	Benefit (Cost) of using Hourly Average MWh	
AZPS	\$	(2,009,426)
Powerex	\$	(2,076,845)
CISO	\$	10,080,646
IPCO		n/a
NEVP	\$	(4,153,279)
PACE		n/a
PACW	\$	(1,477,282)
PGE	\$	(363,814)
PSEI		n/a

D. BAA Transfer Out Adjustment

Summary: The current BAA Transfer Out Adjustment has the effect of “moving” neutrality adjustments from exporting BAAs to importing BAAs based on a formula that is intended to reflect a longstanding principle that uplift costs are allocated to measured demand, which includes both the metered demand within a particular area as well as exports from that area, as these exports serve demand in other areas.

The current settlement process, however, inappropriately includes UFE-related neutrality amounts in the determination of the BAA Transfer Out Adjustment. Neutrality charges and credits for UFE reflect differences between the BAA system losses estimated by an EIM entity and the losses as calculated by the CAISO software and are clearly and unambiguously specific to the EIM entity in which they arise.

Methodology: Public data is not available to estimate the overall impact of the BAA Transfer Out Adjustment on EIM Entities. Using Powerex’s own settlement data, however, Powerex estimates that it received approximately \$3 million in net revenues resulting from BAA transfer adjustments. Powerex further understands that a significant portion of these revenues may be the result of the improper re-allocation of UFE credits from other EIM Entity BAAs:

Preliminary Results (April 1, 2018 – March 31, 2019):

Powerex Transfer Out Adjustment	\$	(900,000)
Powerex Transfer In Adjustment	\$	4,000,000
Net Revenue from Transfer Out Adjustment	\$	3,100,000

Appendix B — Powerex Recommendations To Explore Retroactive As Well As Forward-Looking Solutions.

The extensive errors in the settlements process require a robust response, including both retroactive corrections as well as enhancements to ensure accurate settlements going forward.

A. Retroactive corrections to mitigate past application of flawed settlements processes

Powerex believes that retroactive corrections are warranted in two specific circumstances. First, if it is determined that past charges were not consistent with the FERC-approved tariff, then refunds may be necessary as a matter of law. Second, even if past charges were not inconsistent with the tariff, but led to erroneous results, then some form of retroactive relief may be appropriate as a matter of fairness, possibly through a multilateral negotiated settlement.

1. *Refunds are required where the EIM Transfer financial value was not calculated on a 5-minute basis*

Section 11.5.4.1(b) of the CAISO tariff states that:

[t]he CAISO will initially calculate the Real-Time Imbalance Energy Offset to be recovered **on a 5-minute basis** for each Balancing Authority Area in the EIM Area as the sum of the financial value of EIM Transfers and the Settlement amounts ... (emphasis added)

The current settlements process does not calculate the financial value of EIM transfers on a 5-minute basis, however. Instead, the financial value of EIM Transfers with the CAISO BAA is calculated based on the *hourly integrated quantity* shown on the dynamic e-Tag for the associated ETSR path. As a result, the financial value of these EIM Transfers is not correctly calculated for each 5-minute interval.

Powerex believes that refunds associated with the improper determination of the financial value of EIM Transfers for certain 5-minute transfers with the CAISO BAA need to be explored in this stakeholder process.

2. *Retroactive corrections should be explored for erroneous settlements outcomes where the correct calculation is clear and unambiguous*

There are multiple settlements errors that have been identified in this stakeholder process as flawed, but where it is not yet clear whether the settlement process violated the FERC-approved tariff. Retroactive corrections—whether through refunds or through a multilateral negotiated settlement—are necessary as a matter of equity if the intended and appropriate allocation of those charges or revenues is clear and unambiguous. Powerex believes the following three issues satisfy these criteria:

- **Compensation for GHG awards**—the current settlement process erroneously clawed back this revenue from the EIM entity, whereas it clearly and unambiguously should have been funded from the LMPs charged to California imbalance energy purchases.

- **Applying GHG shadow price to EIM Transfers**—the current settlement process erroneously pays the GHG shadow price to exporting EIM entities and erroneously charges the GHG shadow price to importing EIM entities, whereas the GHG shadow price clearly and unambiguously should not apply to any EIM transfers.
- **Allocating neutrality charges for Unaccounted For Energy (UFE)**—neutrality charges and credits for UFE reflect differences between the system transmission losses estimated by an EIM entity and the losses as calculated by the CAISO software. The current settlement process allocated a portion of the UFE-related neutrality amounts to other EIM entities, whereas UFE is clearly and unambiguously a charge or credit that should be allocated only to the EIM entity in which they arise.

Powerex believes each of these outcomes violates core principles of the EIM and/or the more general principles of cost-causation. If it is determined that these outcomes cannot be addressed through refunds, then Powerex urges CAISO to explore with stakeholders a potential negotiated settlement that provides for the return of excess neutrality revenues to entities that incurred excess neutrality charges associated with these issues. CAISO can play a key role in facilitating such discussions by providing technical and analytical expertise to calculate the amounts associated with these issues.

3. *Retroactive corrections may not be warranted where the appropriate settlements outcome is unclear or ambiguous*

A final circumstance may arise where an aspect of the settlements process is clearly flawed, but it is not clear what the appropriate approach should be. Powerex believes that the RTIEO adjustment falls in this category, with the exception of UFE, discussed above. The components of RTIEO (other than UFE) that are intentionally subject to transfer between EIM entities in order to provide accountability for actual performance, at least at the BAA level. Absent an alternative allocation that is clearly and unambiguously “correct,” retroactive corrections are not likely to advance fairness or lead to satisfactory resolution of these issues.

B. Immediate as well as Durable Forward-Looking Solutions Should Be Pursued

Powerex supports CAISO’s goal of taking prompt action to help prevent the flaws in the current settlements processes from causing further harm and disruption to EIM entities. But Powerex also believes it is important to recognize that near-term “damage control” measures may not represent the most appropriate framework going forward. Therefore, Powerex recommends that CAISO and stakeholders develop responses to the identified settlements flaws with both goals in mind.

1. *Financial value of 5-minute EIM Transfers*

Powerex supports the proposal to use the 5-minute dispatch values of EIM transfers to “shape” the actual delivered hourly value from the dynamic e-Tags. Powerex believes this is an appropriate approach that can be implemented by CAISO to calculate the financial value of all 5-minute EIM transfers between all EIM entities. Powerex believes this approach is appropriate as both an immediate enhancement and as a durable approach going forward.

2. Addressing GHG compensation clawback and inclusion of GHG in EIM transfers

Powerex is not opposed to implementation, on a strictly interim basis, of CAISO's proposal to continue to use the SMEC to calculate the financial value of EIM Transfers and to apply a "credit" based on the GHG shadow price. It appears that, arithmetically, the CAISO's proposal will remove the GHG shadow price from the value of EIM transfers, while also offsetting any GHG attribution compensation that would otherwise give the erroneous appearance of revenue non-neutrality.

Powerex does not support this approach on anything other than an explicitly interim basis, however. This approach further complicates an already-complex process, and puts the burden on EIM entities outside of California—which have *not* adopted California's GHG cap-and-trade program—to verify that their settlements have correctly nullified the default inclusion of California GHG-related costs. Powerex therefore conditions its support for the CAISO proposal on the concurrent commitment to initiate a stakeholder process to develop a more transparent process for evaluating and ensuring revenue neutrality. In particular, Powerex believes that a separate neutrality account is needed to account for GHG attribution revenue to external resources and corresponding payments by California purchasers.

3. Other than UFE, RTIEO charges should continue to be subject to allocation between EIM Entities

As noted by other stakeholders, the CAISO explained in its filings to FERC that it would perform this adjustment "in order to allocate these [uplift] costs consistent with cost causation, as well as other guiding principles of ISO cost allocation."¹ Powerex believes the principles behind transferring a portion of the initial RTIEO amount remain valid and important. In particular, Powerex notes that this transfer of RTIEO charges is one of the few ways in which an EIM entity is encouraged to minimize uninstructed deviations in load or generation. As recognized by CAISO in the stakeholder call, the elimination of RTIEO adjustments would result in all charges to resources for uninstructed deviations being returned to the EIM entity, which has the potential to eliminate the financial incentives of settling uninstructed deviations in the first place. Powerex believes one of the core purposes of an imbalance energy market is to hold entities accountable for their actual energy imbalances, including uninstructed deviations. Powerex therefore does not support, even on an interim basis, the CAISO proposal to eliminate the RTIEO transfer adjustment.

Powerex *does* support, however, an immediate modification to prevent this transfer adjustment from applying to charges or credits related to UFE. UFE is driven primarily by differences between the transmission losses estimated by the EIM entity and the losses that are calculated by CAISO's systems. This difference between in loss estimates is unrelated to any EIM transfers, nor is it the result of an EIM entity's decisions or market behavior. Powerex therefore believes there is no cost-causation or incentive-compatibility rationale for allocating charges or credits for UFE to any entity other than the EIM entity where they arise.

¹ See Comments of the Six Cities on the Real-Time Market Neutrality Settlement Issue Paper and Straw Proposal (May 13, 2019) at 1. (Quoting from CAISO's 2014 filings at FERC of tariff amendments to implement the EIM.)

Powerex believes CAISO should immediately initiate a stakeholder process to explore and develop enhancements to the RTIEO transfer adjustment mechanism that are consistent with the cost-causation and incentive-compatibility design principles it articulated at the outset of the EIM. More broadly, Powerex believes this stakeholder process should explore creating dedicated neutrality accounts for each specific potential source of non-neutrality (e.g., UFE, uninstructed imbalance energy, GHG attribution). By determining neutrality amounts separately for each type of activity, the proper allocation of each charge can be determined consistent with cost-causation and incentive-compatibility principles, which may differ for each type of neutrality account. The current approach of commingling multiple different types of activity into a single RTIEO process necessarily leads to a “one size fits all” allocation, which Powerex believes may not be appropriate.