Comments of Powerex Corp. on Market Enhancements for Summer 2021 Readiness Straw Proposal

Submitted by	Company	Date Submitted
Mike Benn 604.891.6074	Powerex Corp.	February 3, 2021

Overview

Powerex appreciates the opportunity to submit comments on CAISO's January 26, 2021 presentation of its straw proposal in the Market Enhancements for Summer 2021 Readiness stakeholder process (Straw Proposal). Powerex supports CAISO's efforts to make the best use of the coming months to identify and implement steps that can help ensure reliability of the CAISO balancing authority area (BAA) this summer.

Achieving Summer 2021 readiness is a formidable challenge, created by actions largely beyond the CAISO's control. In particular, it is now well-documented that the CAISO BAA has a Resource Adequacy (RA) gap of several thousand megawatts for the summer season. It is also well-documented that a significant portion of the RA supply that LSEs in the CAISO BAA have secured may not be real and/or capable of performing in the most critical hours. While the CAISO has been a strong advocate for reforms to California's RA program to address both of these problems—which Powerex very much supports—these reforms will not be in place in time to contribute to readiness for Summer 2021. This stakeholder initiative may therefore represent the last opportunity for decisive steps that could avoid the CAISO BAA once again being significantly capacity deficient during Summer 2021.

Regrettably, however, the actions contemplated in the Straw Proposal appear focused on the ***symptoms*** that will inevitably arise in the CAISO's short-term energy markets in the event that the CAISO BAA is once again capacity deficient, rather than containing steps that would ***remedy that deficiency*** through increased forward capacity procurement activities for the CAISO BAA.

Powerex recognizes that the CAISO is in a very challenging situation, tasked with reliably operating its BAA in real-time but inheriting the capacity shortfall that has resulted from insufficient forward procurement by LSEs in the CAISO BAA of real, deliverable supply. Given the magnitude of this challenge, it is perhaps understandable that the Straw Proposal consists of measures that enable the CAISO to receive and retain as much supply as possible in its short-term markets. However, such measures will inevitably have the effect of elevating the reliability and economic interests of LSEs in the CAISO BAA—whose own forward procurement choices create the capacity challenges—over the reliability and economic interests of ratepayers outside of the CAISO BAA. If this Straw Proposal moves forward, it can only serve to erode confidence in

regional markets such as the EIM, and reduce support for further extending CAISO markets through an EDAM.

Powerex instead urges the CAISO to focus the available time remaining before the upcoming summer season to pursue two key objectives:

1. Close the capacity procurement shortfall in the CAISO BAA to the greatest extent possible, including through expanded backstop procurement efforts by the CAISO itself; and
2. Ensure that any capacity shortfall that remains does not create reliability challenges or inequitable economic consequences for ratepayers outside of the CAISO BAA. This includes:
    a. Providing comparable priority for day-ahead wheel-through schedules and day-ahead import schedules; and
    b. Implementing a credible EIM Resource Sufficiency evaluation, and applying a sufficient financial charge to entities that choose to lean on the EIM, thus reducing the financial incentives to do so.

The above efforts will increase the capacity available to serve loads in the CAISO BAA, and avoid extending the harmful consequences of any remaining resource deficiencies in the CAISO BAA to other regions and their ratepayers.

Unfortunately, the Straw Proposal includes measures that either do not address these objectives, or cannot be implemented in time for Summer 2021. Powerex suggests that such measures—including System Market Power Mitigation and scarcity pricing—be deferred.

I. CAISO's Organized Markets Cannot Properly Function Unless All Entities Are Resource Sufficient

The CAISO operates an organized wholesale electricity market in the day-ahead and real-time timeframe. Generally speaking, such organized markets are designed to make the most efficient use of available resources to meet demand. Of course, by the time the CAISO commences operation of its short-term markets, little can be done to change the quantity or type of resources that are available in either the day-ahead or real-time timeframe. Organized markets therefore face an early decision in their design: are the day-ahead and real-time market prices intended to provide the primary motivation for installed capacity to be expanded? Or is ensuring an adequate stock of generation resources left to some other mechanism, with the organized market prices only reflecting the short-term cost of utilizing those resources that do exist and are available? Both approaches are in use today.

The first approach is often referred to as an **energy-only market**, reflecting that the energy market represents the only revenue stream for suppliers. Energy-only markets have been implemented in ERCOT and in Alberta, neither of which have a separate capacity market or resource adequacy requirement. Instead, LSEs have incentives to procure supply on a forward basis in order to reduce their exposure to purchases in the day-ahead or real-time markets at prices that can, and periodically do, reach very high levels. Similarly, the potential to earn very high prices provides an incentive for capacity to be added, and for existing capacity to be available during times of greatest need.

It is widely accepted that, in order for energy market prices to provide sufficiently strong incentives to drive capital investment decisions, they must periodically rise to levels far above the variable short-run production cost of the marginal unit in a given hour. In ERCOT, for example, prices can and do rise up to $9,000/MWh, a level specifically intended to be high enough to encourage capacity additions when necessary to relieve tightening system conditions:

> *As an energy-only market, ERCOT relies heavily on high real-time prices that occur during shortage conditions to provide key economic signals that incentivize development of new resources and retention of existing resources. [...] The hot weather and relatively low planning reserve margin in the summer of 2019 led to prices that exceeded $1,000 per MWh in over 28 cumulative hours and that were at $9,000 per MWh for over two cumulative hours.*[1]

In Alberta's real-time market, prices are limited to $1,000/MWh, but reach these levels in a comparatively larger number of hours than ERCOT as generators are generally not restricted from increasing their offer prices under relatively tight system conditions.

In contrast to these two markets, all FERC-approved organized markets are founded on a hybrid approach of separate and distinct **capacity and energy markets**, with the spot energy markets providing only one of the revenue streams for compensating resources. These markets also incorporate some form of forward capacity requirement on LSEs. This ensures that even

[1] Potomac Economic, "2019 State Of The Market Report For The ERCOT Electricity Markets," at iv.

resources that will run infrequently, and may earn only enough revenue from the spot energy market to cover their fuel costs, will still receive separate forward capacity compensation for "being there" and thus backstopping the ability of the grid to serve its peak demand requirements with a high degree of confidence. In principle, since reliability is ensured through the forward capacity requirement, prices in the spot energy markets can be comparatively low without directly undermining reliability.

The CAISO market design reflects this latter approach, and actual CAISO energy market outcomes reflect this hybrid approach of (i) a forward capacity requirement; and (ii) a short-term energy market. CAISO's Department of Market Monitoring (DMM) includes in its annual reports an analysis of the revenues that would be earned by a hypothetical new natural gas-fired generator selling its output into the CAISO market, concluding that:

> *In 2019, net revenues earned through the ISO's energy market continued to be significantly lower than DMM's estimate of levelized fixed costs for typical new gas-fired units. […] The estimated net energy market revenues of gas units in 2019 also dropped below DMM's estimate of the annual going forward fixed costs of gas generation.*[2]

This is not a criticism of the CAISO markets; rather, it underscores the fact that, by design, market prices in the CAISO's short-term markets are not intended to be a material incentive for new capacity. As stated by DMM:

> *These results continue to underscore the need for any new gas resources needed for local or system reliability to recover additional costs from long-term bilateral contracts.*[3]

This leads to a key observation regarding hybrid capacity and energy markets such as the CAISO: ***the price of energy purchased in the CAISO markets does not provide material (or perhaps any) compensation toward the value of installed capacity.***

This results in extremely powerful financial incentives for LSEs in the CAISO BAA to meet their capacity needs by purchasing energy in the organized spot market ***instead of*** entering into forward contracts or building generating resources. Simply put, ***the cost of purchasing energy in the CAISO short-term markets to meet an LSE's capacity needs will always be far more attractive than the cost of building or contracting for new capacity.***

A robust capacity or resource sufficiency requirement is therefore critically necessary in order to counterbalance this financial incentive so that adequate levels of resources are maintained or expanded to ensure reliability. If strong resource sufficiency requirements are not in place, and LSEs in an organized market are free to respond only to the financial incentives created by spot market prices, the result would be an erosion of reliability including an inability to serve demand

[2] CAISO Department of Market Monitoring, "2019 Annual Report on Market Issues and Performance," at 73.

[3] *Id.*

in a substantial number of hours. Such an outcome would obviously be undesirable and unacceptable.

An organized market that consists of some entities that *are* resource sufficient but also some that are not will also lead to outcomes that are undesirable and unsustainable, albeit for different reasons. In the aggregate, it is likely that such a market would experience relatively few reliability challenges. This is because entities that are resource sufficient generally procure or build enough supply to meet their projected *peak* demand requirements, leaving them with surplus supply in a large number of hours. The collective surplus of all resource sufficient entities may, indeed, be enough in many hours to offset the lack of sufficient resource procurement by the entities that are not resource sufficient. While reliability events may largely be avoided in this manner, a different problem is created: one of very significant "free riding" by the deficient entities on the supply that was procured and paid for by the ratepayers of other entities. And in the hours that the aggregate amount of capacity is not enough to meet the total requirements of all entities, the centralized dispatch of the organized market will potentially expose all entities to reliability risk and/or price spikes.

As explained in the next section, the foregoing is an apt characterization of the circumstances prevailing in the CAISO BAA and the CAISO-operated energy markets.

II. The CAISO BAA Can Be Expected To Have A Significant Capacity Shortfall For Summer 2021

Entities across the west take different approaches to procuring supply to meet their customers' needs. Generally, however, supply is procured through four primary types of activity:

1. **Long-term planning (year-ahead or longer),** which includes plans to build new generation and/or enter into long-term contracts for the output of other generating resources.
2. **Seasonal and monthly contracting** for bundled capacity and energy (*i.e.,* forward firm energy).
3. **Day-ahead bilateral transactions** for firm energy.
4. **CAISO organized markets**

Historically, several LSEs in the west have fully procured the capacity necessary to meet their anticipated peak demand requirements through their long-term planning processes. In contrast, many other LSEs have not secured sufficient capacity to meet their peak needs through their long-term planning processes. Instead, these LSEs have met a substantial portion of their capacity needs through seasonal, monthly, and day-ahead firm energy transactions to procure any remaining supply that they need. Historically, there has generally been surplus supply available from various entities in nearly all times of the year. This made it attractive for several LSEs in the west, with the support of their regulators, to rely on purchasing firm energy in the short-term markets as a way of minimizing their costs without putting reliability at risk.

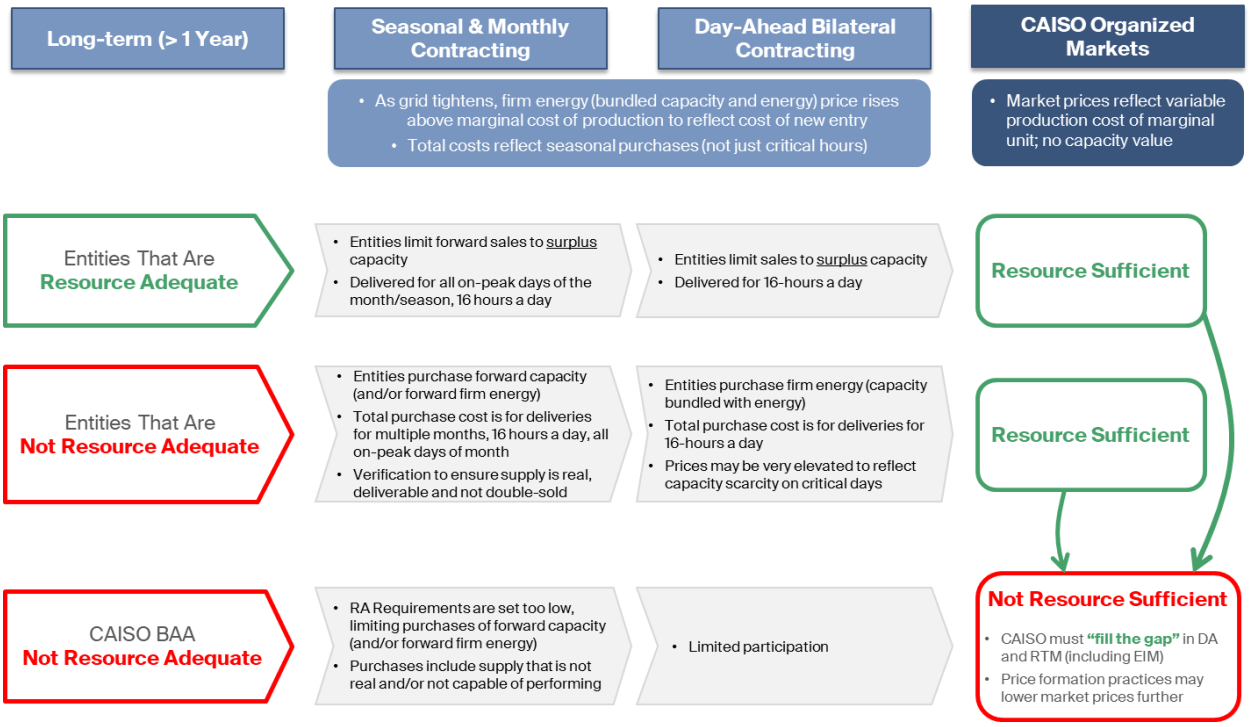
In recent years, however, retirements of significant amounts of the conventional fossil-fueled generation fleet have led to a growing number of periods of constrained supply. Most, if not all, LSEs outside the CAISO BAA are now responding to this by taking steps to procure supply well in advance of their peak demand season, in order to reduce the risk of being unable to find supply in the short-term markets. In addition, following the events of last summer, Powerex is aware of numerous LSEs outside the CAISO BAA seeking to ensure that the forward capacity and forward firm energy contracts they enter into reflect real physical supply (while also ensuring that the supply has not been double-sold to multiple parties and will be deliverable on high-quality transmission service).

The tightening grid conditions in the west have resulted in market outcomes that appropriately and efficiently reflect the increased value of committing physical capacity. This value arises in two ways. First, under tightening conditions the per-MWh price of firm energy rises materially above the variable productions cost of the marginal resource. Second, entities pay for that capacity not just in the few hours that they experience their peak demand conditions, but through contracts that typically span multiple months of the peak season, include all days in those months, and generally all 16 on-peak hours of each day.

Importantly, LSEs outside the CAISO BAA have strong incentives to procure reliable capacity in advance, as they are both the entity responsible for procurement and the entity that bears the reliability, economic, and reputational consequences of any shortfalls. LSEs outside the CAISO BAA have limited procurement opportunities after the end of day-ahead bilateral trading; as discussed in Section IV.B.1, these LSEs are generally unable to access imports in the EIM if they are not already fully resourced (as the EIM Resource Sufficiency test successfully prevents them from leaning on the EIM for capacity). And if such an LSE ultimately fails to procure sufficient capacity to meet its needs, it will be its customers—and not those of any other LSE—that will be interrupted as a result. Finally, both ratepayers and regulators will look to the LSE as the entity responsible for arranging adequate sources of supply to maintain reliable service to its customers.

For LSEs in the CAISO BAA, however, these incentives are far weaker, if they exist at all. If there is a supply shortfall, as occurred last summer, all load customers in the CAISO BAA are at risk of service interruptions. That is, the reliability risk is socialized, and service interruptions are not limited to the specific customers of the individual LSEs that did not procure sufficient capacity to meet their customers' needs. Moreover, reliability of the CAISO BAA is generally not viewed as the responsibility of the LSEs, but of the CAISO in the operational timeframe and the CPUC in the forward timeframe. This structure effectively breaks the link between the entities that are primarily responsible for procuring supply (*i.e.,* LSEs) and the entities that bear the reliability and reputational consequences if that supply is insufficient and/or does not perform (*i.e.,* the CAISO, and CAISO load customers more broadly).

The differences in procurement approaches across different timeframes and through different markets is illustrated below:



Powerex is an active participant in the forward bilateral markets in the west, where Powerex sells surplus capacity and firm energy to LSEs in the Northwest, Southwest, and California during the summer season. Powerex has not only issued an RFP offering Summer 2021 supply to entities across the west, it has also responded to other entities' RFPs seeking such supply. From this experience, it is clear to Powerex that real physical supply is being transacted and procured throughout the west, particularly in the Southwest region. At the same time, Powerex's experience indicates that LSEs in the CAISO BAA frequently appear to be choosing to *not* compete with other purchasers (primarily in the Southwest) to secure the supply they need to eliminate *their* Summer 2021 capacity deficiencies. Moreover, some LSEs in the CAISO BAA also appear to *not* require that the supply they procure is from real, identifiable capacity that will be deliverable on high-quality transmission service. This is perhaps not surprising, nor is it intended to be a criticism of these LSEs, but rather reflects the well-documented gaps in California's RA program that drives forward procurement decisions of LSEs in the CAISO BAA.

III. Reliance On CAISO-Operated Markets To Fill Capacity Procurement Shortfalls Leads To Harmful Reliability And Economic Consequences Across The Region

When LSEs in the CAISO BAA leave a substantial procurement gap to be filled by the CAISO in the day-ahead and real-time markets (including the EIM), it leads to several adverse outcomes to ratepayers in other regions, including EIM Entities.

A. Inequitable free-riding on capacity procured by external LSEs

The first and most frequent consequence of LSEs in the CAISO BAA not procuring sufficient capacity to meet their peak demand requirements is not that reliability is threatened—this remains relatively rare. Rather, the typical outcome is that service to customers of LSEs in the CAISO BAA necessarily relies on capacity paid for by *other* entities and their ratepayers. By design, an entity that is fully resource sufficient will have some amount of surplus supply in the majority of hours. Indeed, one of the potential sources of savings from regional collaboration is the ability to quantify the benefits of capacity diversity across multiple LSEs and regions, recognizing that not all entities will experience peak demand conditions at the same time. But this is entirely different from one group of entities deliberately procuring too little capacity to meet its own needs (beyond its calculated diversity credit) and seeking to rely on the available surplus of other entities in order to maintain reliability.

In effect, ensuring reliability in the context of a deliberate capacity procurement shortfall relies upon:

1. ***Other* entities' ratepayers shouldering the cost** of building resources or procuring supply on a seasonal, monthly, or multi-hour day-ahead basis—and at market prices that reflect the value of limited capacity in a tightening grid; and
2. **The capacity-deficient entities being able to purchase energy** one hour at a time through the CAISO day-ahead and real-time markets (including the EIM) at prices that generally only reflect the variable production cost of the marginal resource.

This is no different than expecting a neighbor to buy a car and then relying on being able to use it while only paying for the fuel. In much the same way, LSEs in the CAISO BAA inherently are relying on being able to receive energy from capacity installed or procured by LSEs outside the CAISO, while avoiding the cost of that capacity.

It has now become clear that this type of free-riding has occurred systematically in the EIM, where the CAISO BAA regularly receives up to 2,000 MW or more of imports during the hours of its evening net load peak. This was observed throughout the August 2020 heat wave period, including during hours in which the CAISO BAA was in a declared energy emergency. These imports were clearly not used to back down more expensive resources in the CAISO BAA, but rather to make up for a lack of sufficient resources in the first place.

The economic value that accrues to LSEs in the CAISO BAA from free-riding on approximately 2,000 MW of capacity procured by other entities could easily be in the range of $140-$350 million per year, based on three different indicative approaches:

Estimated Value	Description
$140 million	Value of 2021 Q3 On-Peak forward contracts at Palo Verde (which settle against the bilateral day-ahead index for firm energy) *minus* 2021 Q3 On-Peak forward prices at SP15 (which settles against the CAISO day-ahead market prices)
$214 - $342 million	Based on SPP financial penalty for entities that are not resource adequate in its footprint in the summer season. (*i.e.*, between 125% and 200% of the annual Cost of New Entry, or $85.61/kW-year).[4]
$151 million	The cost of procuring forward capacity for one year at CAISO's CPM soft offer cap ($75.68/kW-year). Note this value reflects only going-forward costs, and does not include fixed capital costs and certain other costs.[5]

At the public stakeholder workshops, it has been suggested that uncompensated leaning on capacity procured by EIM Entities is part of the greater bargain that allows those EIM Entities to participate in other efficient economic activity. The above estimates make it clear, however, that the inequitable transfer of value associated with capacity leaning in the EIM is comparable in magnitude to the total reported benefits for all EIM Entities in 2020 (excluding the CAISO itself).[6]

As discussed more fully in Section IV.B.1, capacity leaning is contrary to the core design principles of the EIM as a market to enable intra-hour economic displacement transactions and to unlock diversity benefits of load and renewable energy production. It has become very clear that there is extensive capacity leaning systemically occurring through the EIM by the CAISO BAA, and that the resource sufficiency evaluation that was supposed to detect and prevent such leaning is ineffective. Restoring confidence in the EIM requires an unequivocal commitment by the CAISO that the EIM will be enhanced to achieve its core design principle of requiring all participants to be resources sufficient. Powerex's specific recommendations for achieving this goal in Summer 2021 are found in Section IV.

B. Price Spikes And Reliability Challenges For Other Entities In the Region

The consequences of the capacity procurement shortfalls in the CAISO BAA become more acute when grid conditions are tight across larger portions of the west. In particular, supply shortages in the CAISO BAA can lead to price spikes that extend to other entities across the EIM footprint. Even EIM Entities that are fully resource sufficient may nevertheless face very high prices for the intra-hour imbalance energy they consume. The August 2020 heatwave illustrated how the EIM leaning can make reliability challenges more difficult in other BAAs, as resources in those areas may be dispatched by the EIM software to their maximum levels throughout the afternoon hours, leaving little or no headroom available to serve any further increase in demand in the EIM Entity's

[4] SPP OATT, Attachment AA ("Resource Adequacy") at Sections 5, 13, and 14.4

[5] *See* CAISO, "Capacity Procurement Mechanism Soft Offer Cap—Draft Final Proposal," (January 2020) at 5. ("The soft offer cap was set as a subset of the fixed costs, representing going forward fixed costs, for a new resource. These costs include insurance, ad valorem taxes, and fixed operations and maintenance costs, but not capital and financing costs or taxes.")

[6] *See* https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx, reporting $263 million in benefits in 2020 for all EIM participants other than CAISO.

service territory. EIM Entities are only able to avoid such outcomes by taking steps to either limit their export transfers in the EIM or by temporarily suspending their EIM participation altogether.

Capacity procurement shortfalls in the CAISO BAA can also exacerbate reliability challenges outside of the EIM. Last summer, in an effort to receive and retain supply to meet reliability challenges in its BAA, the CAISO blocked or curtailed purchases at CAISO interties to the Southwest region. Rather than continuing to rely on price-based competition among purchasers in both the CAISO BAA and Southwest in the CAISO's day-ahead and real-time market processes, these actions enabled purchasers in the CAISO BAA to effectively "step ahead" of purchasers seeking to serve loads outside the CAISO BAA. More concerning, the Straw Proposal would allow the CAISO to also administratively curtail or displace wheel-through schedules in favor of import schedules that sink in the CAISO BAA.

Both of these actions are highly problematic, as they leverage the CAISO's role as an independent market operator and as an open-access transmission service provider for the purpose of backstopping the forward capacity procurement deficiencies of the LSEs in the CAISO BAA, at the direct expense of LSEs serving customers outside of the CAISO BAA.

IV. Recommendations To Support Genuine Summer 2021 Readiness

The underlying root cause of reliability events and price spikes both in the CAISO BAA and throughout the EIM is the significant capacity procurement shortfall of LSEs in the CAISO BAA. If the CAISO BAA once again enters the day-ahead timeframe thousands of megawatts short of their peak demand requirements, there is likely very little that can be done to avoid the reliability and economic consequences of those decisions.

For this reason, and given the limited time available to prepare for Summer 2021, Powerex recommends that the CAISO focus its efforts narrowly on two goals:

A. Increasing forward capacity procurement to meet CAISO BAA load in Summer 2021

Powerex believes that the CAISO's top priority should be to take all possible steps to increase the forward procurement of capacity to serve load in the CAISO BAA. This includes expanding and using its backstop procurement authority to enter into supply contracts for the summer season (through a competitive solicitation process).

The CAISO should also consider requiring all LSEs in the CAISO BAA to support their monthly RA supply showings with an attestation that the sources of their contracts are identifiable, real physical resources, which have not been double-sold to multiple other parties, and that will be deliverable on high-quality transmission. Even if such an attestation requirement does not alter LSEs' procurement arrangements for the Summer 2021 season, it can at least give the CAISO a more accurate picture of the actual capacity it can expect to be available when it is needed, and thus better inform its evaluation of additional procurement needs.

B. Ensure capacity shortfalls in the CAISO BAA do not cause reliability or economic harm to entities outside the CAISO BAA

This goal is necessary to ensure that the consequences of any capacity shortfall of the CAISO BAA are borne by entities *in* the CAISO BAA, and are not extended to other entities. This is necessary to avoid an inequitable socializing of the consequences of the CAISO BAA shortfall, and hence to encourage external entities to continue to participate in the CAISO's regional organized market. Furthermore, this step is necessary to reduce some of the financial incentives that drive the CAISO BAA's persistent capacity shortfall in the first place.

Two specific enhancements are necessary prior to Summer 2021 to ensure that capacity shortfalls in the CAISO BAA do not create reliability or economic harm to entities outside the CAISO BAA:

1. *The EIM Resource Sufficiency evaluation must include a credible test for sufficient capacity prior to each hour*

To the extent any EIM Entity (including the CAISO) does not have sufficient capacity to meet its peak demand requirements, net of any diversity benefit, then the entity is capacity leaning on the EIM, contrary to a bedrock principle of its design. The data now clearly shows that large EIM transfers can and do occur into the CAISO BAA when it is clearly not resource sufficient. Powerex believes there is no room for equivocation on this point, and that it should be clearly recognized that:

1. Extensive capacity leaning has occurred in the EIM by the CAISO BAA; and
2. Capacity leaning is contrary to the principles of the EIM.

It is imperative that, prior to Summer 2021, the CAISO restore the proper functioning of the EIM as a market where participants are not free to engage in uncompensated capacity leaning. If the EIM continues to enable uncompensated capacity leaning, EIM Entities may ultimately be discouraged from EIM participation during stressed grid conditions, and/or may feel the need to explore other appropriate avenues to protect against free-riding on the capacity procured at the expense of their ratepayers.

The first step toward restoring the proper functioning of the EIM is to implement a more accurate capacity sufficiency test. Such a test must only include supply from resources that are known to be available, and only for the quantity that the resource can actually provide. In addition, a credible capacity test must only include imports that have been secured, and that will be delivered from real, identifiable physical resources known to the EIM Entity. As explained at the public stakeholder workshop, EIM Entities outside the CAISO BAA are already held to this standard, as it is only the CAISO BAA that is able to include "bid range" supply in its RS evaluation that may far exceed a resource's achievable output, or that may simply reflect an import offer that is entirely speculative. Finally, the existing practice of prior-hour EIM imports providing a capacity "credit" to the receiving entity must be eliminated. The CAISO BAA is the sole BAA that regularly and significantly increases its EIM imports prior to the evening net load peak, and hence it uniquely benefits from the inappropriate prior-hour EIM import "credit." It is not enough for all entities to be

subject to the same set of rules; the rules must lead to comparable treatment and comparable outcomes across entities that are very differently situated. That has not been the case with respect to application of the resource sufficiency evaluation to the CAISO BAA.

Various rationalizations and justifications have been put forward in opposition to implementing a more accurate capacity test in the EIM. None are credible. There is nothing insurmountably complex about tallying up the real physical supply that an EIM Entity actually has available; indeed, such a task seems fundamental to the responsibilities of any BA. Furthermore, attempts to frame uncompensated capacity leaning as a widely accepted part of a "balanced" EIM design are not accurate, and are contradicted by prior representations regarding the EIM's resource sufficiency requirement.

There is simply no sound rationale for continuing to allow extensive and systemic uncompensated capacity leaning on the EIM. The capacity test that can be implemented for Summer 2021 may have limitations or require certain simplifications, but it should not be acceptable to continue with an existing evaluation framework that has been shown to be persistently inaccurate and inequitable.

Together with a credible capacity test, the CAISO should work with stakeholders to identify appropriate and workable consequences in the event of capacity test failures. At the public workshop, Powerex discussed a potential approach in which an entity that fails the capacity test would have a Deficiency Transfer Limit of 0 MW in the import direction. This would be consistent with the principle of "no leaning." Powerex also discussed the possibility of relaxing that limit under certain circumstances. Powerex encourages CAISO to explore possible relaxation mechanisms with stakeholders, such as:

- Applying a sufficiently high parameter price for relaxing the Deficiency Transfer Limit constraint (as discussed at the workshop);

- Allowing EIM Entities to choose to relax the import limit and incur a capacity deficiency charge outside of the market process, based on the value of capacity for the entire summer season and the maximum quantity of deficiency experienced by the entity, with this revenue distributed to the EIM Entities whose resources supported the transfers; and

- Other potential solutions proposed by stakeholders.

Powerex believes a workable solution is possible that does not continue to enable unfettered and uncompensated leaning on the one hand, but also does not force a deficient entity to experience reliability challenges when resources in the EIM area are available.

Finally, given the magnitude of the economic value at issue, and given that leaning in the EIM to date has overwhelmingly benefited LSEs in the CAISO BAA at the expense of LSEs outside the CAISO BAA, Powerex suggests that the EIM Governing Body consider retaining an outside market expert to evaluate and report on the performance of the EIM resource sufficiency evaluation and on the occurrence and magnitude of capacity leaning.

2. Wheel-through schedules and imports must have comparable curtailment priority

In addition to operating an organized market and being a BA, the CAISO is also a major transmission service provider in the west. While much of the transmission service provided by the CAISO is used to deliver supply to CAISO loads, customers can also schedule wheel-through service, receiving energy at one CAISO intertie scheduling point and delivering an equivalent quantity at a different CAISO intertie scheduling point.

Wheel-through schedules in the summer season have typically been in connection with forward and day-ahead transactions for supply in the Northwest that is delivered to entities in the Southwest to reliably serve their load. Northwest supply committed under such transactions is supply that LSEs in the CAISO have *not* contracted for, and hence the CAISO BAA has no plausible "claim" or entitlement to this Northwest supply. Historically, the CAISO has respected wheel-through schedules that cleared in the IFM, including during last summer's challenging conditions. Such wheel-through schedules were appropriately recognized as having competed to utilize CAISO-controlled transmission capability, and the CAISO did not curtail or otherwise seek to appropriate the associated Northwest supply.

The Straw Proposal would abandon the CAISO's historical treatment of wheel-through schedules. Specifically, wheel-through schedules that clear the IFM may be administratively displaced in order to free up transmission capability for the CAISO BAA to receive additional energy imports. By definition, a wheel-through schedule that clears the IFM will have already successfully competed against alternative uses of the transmission space, including energy imports, and be found to represent a more efficient use of the transmission. But under the Straw Proposal the CAISO would have the ability to administratively unwind that outcome in order to enable additional imports into the CAISO BAA, which were either less economic in the IFM or may not have been offered at all.

Powerex believes the Straw Proposal regarding administrative displacement of wheel-through service in favor of native load in the CAISO BAA is inconsistent with FERC open-access principles. Native load does not have a blanket "call option" on import transmission capability. Other than a very limited opportunity for native load customers to set aside discrete quantities of import transmission from specific resources to accommodate future load growth, native load must compete with other transmission customers to acquire transmission service. Under its organized market design, the CAISO makes transmission service available in the day-ahead and real-time timeframes; it has no open-access framework for awarding transmission service on a forward basis. It would thus be highly inappropriate for the CAISO to administratively override wheel-through schedules that were secured through the approved open-access process of the day-ahead market.

In addition to open-access concerns, the curtailment of wheel-through schedules as a tool to fill the capacity procurement shortfall of the CAISO BAA will cause significant harm to at least three different types of entities:

- **Southwest customers will experience greater reliability challenges and economic consequences** as their ability to secure forward supply for the summer season that relies

on CAISO wheel-through service will be impaired. Existing forward arrangements that intend to use CAISO wheel-through service will also be at risk of curtailment during CAISO's critical demand days and hours. This curtailment risk would come at a time that all Southwest entities are continuing to provide open access service on *their* transmission systems. Notably, this open access service provides CAISO LSEs the ability to receive supply from within Southwest BAAs as well as supply that wheels-through Southwest BAAs—including in the EIM—without risk of discriminatory curtailment due to Southwest BAAs experiencing reliability challenges.

- **Northwest supply will become "trapped"** by the potential curtailment of CAISO wheel-through service. Several Northwest entities have spent billions of dollars to be fully resource adequate in the long-term planning horizon, and seek to sell their surplus in a competitive forward market to earn revenue that reduces costs to their ratepayers. The potential curtailment of CAISO wheel-through schedules can force these sellers to forgo forward sales opportunities to willing buyers in the Southwest, inappropriately limiting their forward sales options to customers in the Northwest and/or California regions (inconsistent with one of the core objectives of open access).
- **Transmission service providers, primarily in the Northwest, will have their OATT priority undermined.** The primary use of CAISO wheel-through schedules in the summer season is from the Northwest to the Southwest. Transmission service providers in the Northwest have made significant long-term investments to develop transmission facilities between the Northwest and California. The OATT framework supports recovery of these investments through rates paid by transmission customers; the main incentive for transmission customers to commit to paying these rates—often for terms of many years or even decades—is the priority of service on those facilities. The administrative curtailment by CAISO of wheel-through schedules can negate this priority. Indeed, once a wheel-through schedule is curtailed, including when it is scheduled on external firm transmission service, the external transmission capability could then be used by other entities as non-firm service to support any other schedule, including imports of an RA resource, but also imports from non-RA resources through exceptional dispatch, or offered in the HASP or FMM.

Powerex strongly opposes the Straw Proposal's measures regarding the priority of wheel-through schedules. Consistent with open-access principles and the practices of other transmission service providers in the region (many of whom provide transmission service used to deliver energy to the CAISO BAA), wheel-through schedules in the IFM should have the same curtailment priority as native load service in the CAISO BAA.[7] This ensures that CAISO transmission capability is allocated between wheel-through, import and export schedules according to price-based competition; to the extent any infeasibility cannot be resolved based on submitted prices, schedules should be curtailed on a *pro rata* basis.

[7] It is Powerex's understanding that the parameter prices currently employed by the CAISO result in wheel-through schedules having *higher* priority than CAISO load in the IFM, but *lower* priority than CAISO load in the RUC process. Powerex would support modification of the parameter prices so that wheel-through schedules and CAISO load in the same temporal market have equal priority in each CAISO process.

C. Other Measures in the Straw Proposal Should Be Eliminated, or Deferred For Consideration After Summer 2021

The above recommendations would enable the CAISO and stakeholders to focus on specific measures that reduce the capacity shortfall in the CAISO BAA, and limit the harm to entities outside the CAISO BAA of any capacity shortfall that remains. The Straw Proposal contains other measures that either do not advance one of these objectives, or cannot feasibly be implemented by Summer 2021. Powerex recommends that those measures be eliminated from further consideration in this stakeholder process. This does not necessarily mean those measures should not be considered at all; just that they do not fit the narrow scope of what can be achieved in this stakeholder process.

Powerex offers brief comments on two of these additional components of the Straw Proposal:

System Market Power Mitigation should not be implemented this summer. In Powerex's view, System Market Power Mitigation should never have been included in this initiative. The issue has been highly controversial, is likely to undermine the ability of the CAISO markets to compete for limited external supply, and its accelerated implementation during the peak of the summer season creates a high risk of unintended consequences. It is equally clear that some of the motivation of stakeholders supporting System Market Power Mitigation is not to address any observed exercise of seller market power—of which there is no evidence, even during last summer's heat wave.[8] Rather, it appears that the System Market Power Mitigation proposal is intended to further suppress prices in the CAISO markets for the benefit of the very entities whose capacity procurement shortfalls create the potential for tight conditions.

Powerex fully supports market design that protects against the exercise of market power—by sellers as well as by buyers—but there is no evidence that a new System Market Power Mitigation component is necessary for Summer 2021.

Scarcity pricing should be considered in a comprehensive review of price formation practices, separate from Summer 2021 readiness efforts. Powerex believes that implementation of robust scarcity pricing is an essential component of enabling the CAISO markets to compete with bilateral market transactions for limited external supply. In addition to scarcity or shortage pricing, other price formation enhancements should be considered, including fast-start pricing, which has now been adopted by every other FERC-jurisdictional organized market. These issues are well beyond the scope of what can be implemented in time for Summer 2021, however. Indeed, the scarcity pricing components of the Straw Proposal are necessarily limited, and likely to be only modestly effective. Powerex suggests that the CAISO instead consider a straightforward implementation of FERC Order No. 831, as other ISO/RTOs have already done, and simply raise the offer price cap to $2,000/MWh during the summer period, escalating other parameter prices accordingly.

[8] To the contrary, where there *is* documented evidence of activity consistent with the exercise of market power, it is activity by buyers, in the form of substantial under-scheduling of demand during critical hours last summer. No proposal has been put forward to address this issue, however.