

Joint Comments of Certain EIM Entities on the CAISO's Day Ahead Market Enhancements Straw Proposal

These EIM Entities¹ appreciate the opportunity to comment on the CAISO's Day-Ahead Market Enhancements Initiative (DAME). The EIM Entities support CAISO's current proposal to enhance its existing financially-binding energy market in a manner that enables CAISO to ensure reliability in the CAISO Balancing Authority Area (BAA), to efficiently procure the physical capacity and flexibility necessary to meet load, and to establish the key elements of a truly physical market design that can be successfully extended across the West.

As the California electric grid has rapidly evolved in recent years, the CAISO has identified several areas in which the existing, sequential day-ahead market is no longer adequate to position the CAISO BAA for its operational needs in real-time. CAISO BAA operators are regularly forced to contend with day-ahead market results that fail to commit sufficient physical resources to meet the operational needs of the grid in real-time, often by **multiple thousands of MWs**. These deficient market results force operators to rely on large and systemic out-of-market actions in an attempt to make up for chronic supply shortfalls.

Specifically, the DAME Straw Proposal highlights the significant uncertainty of the CAISO's day-ahead net load forecasts, and the enormous range of potential real-time conditions that CAISO BAA operators must be prepared to meet.² The CAISO's flexibility challenges are further exacerbated by steep intra-hour net load ramps that cannot be resolved using hourly day-ahead energy schedules, and instead require fast-ramping resources to be available and positioned to respond in real-time.³

The CAISO has also identified that the existing market provides no assurance that sufficient total physical capacity will actually be committed to meet load. The existing design of the financially binding day-ahead energy market fails to differentiate between physical resources and virtual supply when selecting which resources to dispatch. CAISO BAA operator actions to remedy this deficiency are in addition to the actions needed to manage the growing uncertainty and flexibility challenges on the grid.⁴

In response, the CAISO is proposing to enhance its day-ahead market design to secure sufficient capacity and flexibility to better enable the CAISO BAA to ensure reliability, to reduce systemic out of market actions by CAISO BAA operators that undermine market efficiency, and to provide a market design that could be expanded across multiple BAAs in the West.

The CAISO's DAME Proposal Supports Reliability and Market Efficiency

The CAISO's DAME proposal seeks to meet these challenges by implementing a number of critical improvements to the CAISO's existing day-ahead market:

¹ The EIM Entities joining these comments include: Arizona Public Service Company ("APS"), Avista Corporation ("AVA"), Bonneville Power Administration ("BPA"), Idaho Power Company ("Idaho Power"), NV Energy ("NV Energy"); PacifiCorp, Portland General Electric Company ("PGE"); Powerex Corp. ("Powerex"), Public Service Company of New Mexico ("PNM"), Puget Sound Energy, Inc. ("PSE"), Salt River Project ("SRP"), The City of Seattle, acting by and through its City Light Department ("Seattle City Light"), The City of Tacoma, Department of Public Utilities, Light Division ("Tacoma Power"), Tucson Electric Power ("TEP"); and NorthWestern Corporation d/b/a NorthWestern Energy ("NWE"). Some EIM Entities may not have yet formulated their own specific positions on all issues addressed within this document. Therefore, while these comments represent a consensus position of the group as a whole, these comments may not necessarily represent the views on every specific issue by each individual EIM Entity.

² The CAISO DAME Straw Proposal illustrates historic net load imbalances at the 2.5 and 97.5 percentiles between the day-ahead and real-time can range from nearly 3,000 MW to more than 8,000 MW in some hours. (see Figure 16 on page 45)

³ The CAISO DAME Straw Proposal indicates that "63.1 percent of corresponding fifteen-minute market intervals had ramp rates that were steeper or in opposite directions as the scheduled ramp in IFM." (see Figure 18 on page 47)

⁴ DMM has shown that the CAISO BAA relies on its Residual Unit Commitment (RUC) process to secure approximately 1,000 MW on average to replace cleared net virtual supply with physical capacity (see Figure 1.19, DMM Q3 2019 Quarterly Report on Market Issues and Performance, page 27).

- (1) addressing the large uncertainty and variability in net load in the CAISO BAA through the introduction of a carefully-designed new imbalance reserve product;
- (2) adding new requirements to the day-ahead market optimization to ensure that sufficient total physical capacity and physical flexibility are committed to meet the footprint's needs with a high degree of confidence; and
- (3) accurately distinguishing between physical and virtual supply in the dispatch of day-ahead market awards, and producing transparent price signals for capacity and flexibility attributes that are needed to most efficiently operate the grid (e.g., fast-ramping capability, short commitment lead times, low minimum loads, etc.).

The EIM Entities believe each element of the proposal will sufficiently ensure the CAISO's day-ahead market is capable of securing the physical resources needed to ensure reliability in the CAISO BAA. These enhancements are especially important in light of a tightening grid across the West, in which making up for market shortfalls by seeking last-minute out-of-market supply (including potential out-of-market imports from other BAAs) may prove increasingly difficult.

The EIM Entities support the efficiency benefits of a single co-optimized procurement of all of the day-ahead products needed to operate the CAISO BAA. This approach will allow the day-ahead market to properly consider the most efficient (i.e., lowest production cost) mix of resources to provide energy, hourly capacity and 15-minute flexibility, and will produce accurate and transparent price signals for each of those attributes.

The EIM Entities also recognize the important role of virtual bidding in organized markets. Properly designed and implemented, virtual bidding can contribute to increased competition in the day-ahead market, helping improve market efficiency, while also serving as a useful tool for market participants to effectively "lock-in" day-ahead prices for uncertain variable energy resource output. The EIM Entities believe the CAISO's proposal will allow virtual bidding to continue to provide these benefits while eliminating the reliability risk associated with virtual supply incorrectly reducing the commitment of physical resources.

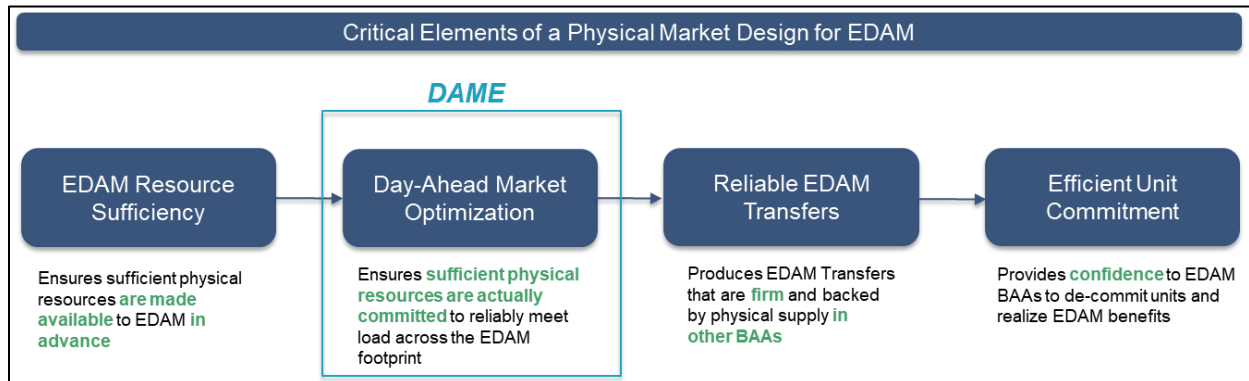
The DAME Proposal is Extendable to a Broader Footprint

The DAME proposal will provide clear reliability benefits to the CAISO BAA and will support the reliability of the Western grid more broadly. The EIM Entities also believe the principles incorporated into the proposal are necessary to establish a day-ahead market design that can be replicated across multiple EIM Entity BAAs as contemplated in the CAISO's Extended Day Ahead Market (EDAM) policy initiative. The majority of bilateral energy transactions that occur outside of the CAISO BAA are for physical firm energy. Physical firm energy is energy implicitly bundled with sufficient physical capacity (including operating reserves and balancing reserves) held in the Source BAA to ensure delivery in all but a set of limited and well-defined circumstances. Firm energy backed with sufficient capacity is critically important to allow purchasers to rely on firm energy supply from other BAAs to meet their load *and to avoid committing higher-cost internal resources* when more economic supply is available, and to otherwise use bilateral firm energy transactions to support their BAA reliability needs.

The EIM Entities recognize the significant potential benefits to moving from the standard 16-hour and 8-hour day-ahead bilateral firm energy product to an hourly organized market such as EDAM. More specifically, an EDAM can enable considerable efficiency through hourly granularity of day-ahead transactions, more efficient utilization of the transmission system, and a more efficient day-ahead commitment of resources across a broader western footprint.

Like today's existing bilateral firm energy transactions, however, it is imperative that entities that participate in EDAM are confident that EDAM purchases can be relied upon to meet load. This is a

requirement that can only be addressed by a market design that ensures sufficient physical resources are committed across the EDAM footprint.



Extending the existing financially-binding energy market to an EDAM would severely undermine the potential benefits of a centralized regional day-ahead market. It is highly unlikely that EDAM participants would be willing to allow their internal resources to be “de-committed” unconditionally, and effectively replaced by an EDAM import that may not be supported by actual physical capacity committed in another BAA. The risks of such an outcome would likely force many EDAM BAA operators to take stand-alone actions to set aside additional internal capacity to protect reliability – as the CAISO BAA itself is forced to do today – nullifying much of the intended efficiency gains of a centralized unit commitment process in the first place.

Summary

While the EIM Entities recognize the complexity of the DAME initiative and understand further dialogue is needed to refine the specific details around the proposal, the EIM Entities strongly support CAISO’s objectives of ensuring a reliable and efficient market design for the CAISO BAA, and believe such a design is an important step toward enabling EDAM. The EIM Entities look forward to further stakeholder dialogue on these topics.