

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System) Docket No. ER23-2686-000
Operator Corporation)**

**MOTION FOR LEAVE TO FILE ANSWER AND ANSWER OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION TO
COMMENTS AND LIMITED PROTESTS**

The California Independent System Operator Corporation (CAISO)¹ answers comments (including limited comments) and limited protests filed in this proceeding² in response to the CAISO's August 22, 2023 tariff amendment

¹ Capitalized terms not otherwise defined herein have the meanings set forth in appendix A to the CAISO tariff.

² The following entities filed comments: Advanced Energy United (AEU); American Clean Power Association (ACP); Arizona Public Service Company (APS), Salt River Project Agricultural Improvement and Power District (SRP), Tucson Electric Power Company, UNS Electric, Inc., and Arizona Electric Power Cooperative, Inc. (collectively, Arizona Utilities); Balancing Authority of Northern California (BANC); Bonneville Power Administration (Bonneville); CAISO Department of Market Monitoring (DMM); California Community Choice Association (CalCCA); California Department of Water Resources State Water Project (CDWR); California Municipal Utilities Association (CMUA); CALifornians for Renewable Energy, Inc. (CARE); Center for Energy Efficiency and Renewable Technologies, Earthjustice, Interwest Energy Alliance (Interwest), Natural Resources Defense Council, Northwest Energy Coalition, Renewable Northwest, Sustainable FERC Project, Western Grid Group, and Western Resource Advocates (collectively, PIOs); Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively, Six Cities); City of Redding, California (Redding); Clean Energy Buyers Association (CEBA); DC Energy, LLC (DC Energy); Deseret Generation & Transmission Co-operative, Inc. d/b/a Deseret Power (Deseret); Electric Power Supply Association (EPSA); Google LLC (Google); Idaho Power Company (Idaho Power); Interwest; Modesto Irrigation District (MID); Nevada Power Company and Sierra Pacific Power Company (collectively, NV Energy); Northern California Power Agency (NCPA); Pacific Gas and Electric Company (PG&E); PacifiCorp; Portland General Electric Company (PGE); Powerex Corp. (Powerex); Sacramento Municipal Utility District (SMUD); San Diego Gas & Electric Company (SDG&E); Solar Energy Industries Association (SEIA); Southern California Edison Company (SCE); Tri-State Generation and Transmission Association, Inc. (Tri-State); Vistra Corp. and Dynegy Marketing and Trade, LLC (collectively, Vistra); and Western Area Power Administration (WAPA).

Northwest Power Pool d/b/a Western Power Pool (WPP) filed limited comments. Shell Energy North America (US), L.P. (Shell Energy) and Western Power Trading Forum (WPTF) filed limited protests. For the sake of simplicity, this Answer refers to all submittals in this proceeding as comments submitted by commenters.

(August 22 Filing).³ The August 22 Filing proposes to enhance and extend the day-ahead market in the West pursuant to the Day-Ahead Market Enhancements (DAME) and Extended Day-Ahead Market (EDAM) stakeholder initiatives. For the reasons explained in the August 22 Filing and this Answer, the Commission should accept the CAISO's tariff revisions without condition, additional obligation, or modification, except as committed to by the CAISO in this Answer.

I. INTRODUCTION

The CAISO sincerely appreciates the timely, thorough, and well considered comments and limited protests submitted by the participants in this proceeding. These comments follow an extensive, collective, and constructive effort to develop the DAME and EDAM proposals through an open, transparent, and collaborative process. The breadth and depth of interest and commitment to enhancing and extending the CAISO's day-ahead market are evident, and the totality of perspectives expressed on both the DAME and EDAM designs demonstrate widespread support for the fundamental objectives and key design

The following entities only filed motions to intervene: AES Clean Energy Development, LLC; American Council on Renewable Energy; Boston Energy Trading and Marketing LLC; Brookfield Renewable Trading and Marketing LP; California Energy Storage Alliance; California Public Utilities Commission; Calpine Corporation; City of Roseville, California; City of Santa Clara, California; Enerwise Global Technologies, LLC d/b/a CPower; Imperial Irrigation District; Leeward Renewable Energy, LLC; Middle River Power LLC; National Hydropower Association; Northwest and Intermountain Power Producers Coalition; NRG Business Marketing LLC; Pacific Northwest Generating Cooperative; Public Citizen, Inc.; Public Generating Pool; Public Power Council; Public Service Company of New Mexico; Public Utilities Commission of Nevada; Public Utility District No. 1 of Snohomish County, Washington; Seattle City Light; Southwest Power Pool, Inc.; TransAlta Energy Marketing (U.S.) Inc.; Truckee Donner Public Utility District; Turlock Irrigation District; Utah Division of Public Utilities; Utah Municipal Power Agency; and Voltus, Inc.

³ The CAISO files this answer (Answer) pursuant to Rules 212 and 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.213. For the reasons explained below in section II of the Answer, the CAISO respectfully requests waiver of Rule 213(a)(2), 18 C.F.R. § 385.213(a)(2), to permit it to answer the limited protests filed in the proceeding.

elements of the proposals and the desire to move forward and pursue further enhancements after implementation. This level of engagement is indicative of this important moment in the evolution and innovation of organized markets in the West. The DAME and EDAM proposals seek to further this regional collaboration and derive the benefits that wholesale electricity markets offer, building on the tangible benefits this collaboration derived through the Western Energy Imbalance Market (WEIM).

Overall the comments indicate broad areas of agreement, recognizing that development of the design considered different competing interests and resulted in a balanced approach that can be further evolved through operational experience. A number of commenters highlighted the importance of EDAM in reducing fragmentation across the Western interconnection to derive benefits for participants and their customers through improved resource optimization, integration of renewable resources, enhanced grid reliability, and additional environmental benefits.⁴ Commenters also highlighted and recognized the extensive collaboration through many working group and workshop discussions, as well as the iterative development of the proposal itself.⁵

⁴ See, e.g., AEU at 2, 3-6; BANC at 3-5; CEBA at 3-5; EPSA at 4-5; Google at 1-2, 7-9; NV Energy at 1-2; PacifiCorp at 2-5; PGE at 3-4; SMUD at 1-2.

⁵ See, e.g., AEU at 2-3, 6; BANC at 3-4, 15; CEBA at 2-3; Google at 9; PacifiCorp at 11, 16-17, 24; PGE at 3. Idaho Power's comments perhaps capture best this sentiment when it explained the August 22 Filing "is the result of an intensive and collaborative stakeholder process that included extensive meetings, workshops, and discussions between the CAISO and market participants, California entities and non-California entities, transmission providers and users, and all interested stakeholders, including Western regulators." Idaho Power at 1.

The comments also highlight broad areas of agreement on key design elements. As a starting point, support for the voluntary nature of participation that facilitates ease of entry and exit from the market is clear, along with transitional measures to further reduce risk to participation due to unexpected operational, reliability, or financial impacts.⁶ Commenters also expressed broad agreement and support for the day-ahead resource sufficiency evaluation, recognizing its function of ensuring adequate supply bids are made available to the market to support efficient market solutions while discouraging leaning of entities without adequate forward procurement.⁷ Broad support was also expressed for the proposed transmission revenue recovery framework as a means for transmission providers to be kept whole to their historical transmission revenues following possible reductions in Open Access Transmission Tariff (OATT) sales through participation in EDAM.⁸ Commenter support also extended to the transmission availability framework as a reasonable starting point that seeks to maximize availability of transmission to support efficient market transfers while respecting OATT rights, as well as the proposed extension of the greenhouse gas accounting framework, with enhancements, that is currently in effect in the WEIM to the extended day-ahead market.

Some commenters also placed an emphasis on reporting, monitoring, and information sharing once the market design changes are operational. As detailed in this Answer, the CAISO is committed to expanding its monitoring and reporting

⁶ See, e.g., AEU at 3, 7; PacifiCorp at 4-5.

⁷ See, e.g., BANC at 6-8; NV Energy at 17-18.

⁸ See, e.g., BANC at 14-15.

activities to include the scope of the DAME and EDAM proposals, providing frequent reports on DAME and EDAM performance, as well as opportunities for discussing market performance-related information, all while ensuring complete transparency and understanding of the information shared. The CAISO embraces this opportunity to provide additional information that meets the objectives expressed by commenters and will coordinate with its stakeholders and partners to enhance its monitoring and reporting activities, including appropriate forums with the objective of facilitating a common understanding of market operation and the ensuing reports.⁹

Further evolution of the market design will be informed by operational experience and input from the diverse perspectives representative of the West, similar to how experience has driven the evolution of the WEIM. The CAISO and its independent market monitor and experts will also monitor market operations and offer perspectives from its market experts when engaging stakeholders and partners in these efforts. Indeed, the CAISO has already initiated these efforts on a number of market elements to consider enhancements beyond this proposal through a series of working groups. The CAISO also embraces these requests from commenters, and expects the collaborative discussion and ongoing evolution to continue in the same spirit upon which the initial design was founded—openness, transparency, and collaboration.

⁹ As further detailed in section III.C.4 of this Answer, the CAISO specifically reiterates its commitment to commence a stakeholder engagement effort to evaluate and validate certain configurable parameters that are part of the DAME proposed design prior to implementation. The CAISO disagrees with certain commenters that all the configurable parameters should be in the tariff.

Nonetheless, there are some that believe additional work remains, which presents a question of whether, on balance, the Commission should accept DAME and EDAM as just and reasonable or whether additional consideration of alternative approaches to a few design elements must first be undertaken. The CAISO firmly believes that moving forward with DAME and EDAM is not only just and reasonable but also the outcome that nearly all interested parties and participants in this proceeding prefer. In that spirit, the CAISO affirms its commitment to implement, support, and improve the initial market design based upon reported data and ongoing monitoring of performance as further described in this Answer.

The August 22 Filing, as noted by the CAISO and in several comments, represents the most significant step forward in the evolution of electricity markets in the West since the CAISO market redesign implemented in 2009 and the WEIM in 2014. It is therefore not surprising that a number of potentially polarizing issues were considered and addressed through the CAISO's stakeholder process before the associated tariff changes in the August 22 Filing were presented to the Commission for acceptance. As noted above, the level of consideration and collaboration on the issues associated with DAME and EDAM was extensive and is well documented. Indeed, even commenters suggesting modifications to proposals highlighted the degree to which the CAISO has been responsive to stakeholders in developing the DAME and EDAM proposals. However, this does not necessarily mean that all issues were resolved to the satisfaction of everyone engaged in that effort.

The proposal as filed, developed with stakeholders, has struck an appropriate balance on the elements of DAME and EDAM at issue in this proceeding. The record in this proceeding supports this perspective, and the submitted tariff changes are just and reasonable as well as a starting point for such a significant step forward. Similar to actions following Commission acceptance and launch of the WEIM by the CAISO with PacifiCorp as its first participant in 2014, the DAME and EDAM proposals presented in the August 22 Filing represent only the beginning. As we all gain operational experience and continue our collective collaboration, the CAISO will be vigilant, attentive, and expedient in its response to identified concerns, consideration of proposals to address significant issues, and the development of appropriate enhancements for future consideration by the Commission. Since these activities are only possible once the associated market design changes are in production, the CAISO urges the Commission to accept DAME and EDAM as proposed in the August 22 Filing and as further supported by this Answer.

II. MOTION FOR LEAVE TO FILE ANSWER TO LIMITED PROTESTS

Pursuant to Rules 212 and 213 of the Commission's Rules of Practice and Procedure,¹⁰ the CAISO respectfully requests waiver of Rule 213(a)(2), 18 C.F.R. § 385.213(a)(2), to permit it to answer the limited protests filed in the proceeding. Good cause for the waiver exists because this Answer will aid the Commission in understanding the issues in the proceeding, inform the Commission in the

¹⁰ 18 C.F.R. §§ 385.212, 385.213.

decision-making process, and help to ensure a complete and accurate record in the case.¹¹

The CAISO typically responds to comments and protests regarding its tariff amendment filings within 15 days. Consistent with the timeline for comments and responses discussed in the August 22 Filing¹² and given the filing's scope and the number of responsive pleadings submitted, the CAISO requests leave to file this answer 20 days after the deadline for comments and protests, to the extent such leave is necessary.¹³

III. ANSWER

A. The CAISO Has Demonstrated the Benefits of the DAME Imbalance Reserve Product, and Arguments to the Contrary Are Merely Speculative

Several commenters expressed their support for the imbalance reserves product. For example, SMUD states the CAISO's approach of evaluating data and utilizing business practice manuals (BPMs) to maintain the ability to respond to cost and deliverability data will allow the CAISO to best address stakeholder concerns on both cost and deliverability.¹⁴ The CAISO agrees this approach will provide these benefits and appreciates the support. NV Energy and Bonneville,

¹¹ See, e.g., *Equitrans, L.P.*, 134 FERC ¶ 61,250, at P 6 (2011); *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,023, at P 16 (2010); *Xcel Energy Servs., Inc.*, 124 FERC ¶ 61,011, at P 20 (2008).

¹² See transmittal letter for August 22 Filing at 2, 200-01 (stating that having 20 days to file its answer would provide the CAISO with sufficient time to review the expected volume of comments without eroding the time for the Commission to issue an order accepting the August 22 Filing by December 21, 2023, and offering an extended 30-day period for comments).

¹³ See 18 C.F.R. § 385.213(d)(2).

¹⁴ SMUD at 4-5. See also, e.g., *PacifiCorp* at 26 ("The proposed imbalance reserve product and the reliability capacity product will give the market flexible capacity that can be used to cover net load uncertainties.").

however, question the benefits of the imbalance reserves product. They claim the CAISO failed to establish the imbalance reserves product will benefit the market, its introduction will harm the market in various ways, and the CAISO failed to consider other more appropriate alternatives. These claims are unfounded and largely are based on fundamental misunderstandings of the purpose of the imbalance reserves product and failures to acknowledge the existing inefficiencies the product will address.

1. The CAISO Has Adequately Demonstrated the Likely Benefit of Imbalance Reserves to Potential EDAM Entities

NV Energy argues the CAISO has not demonstrated that the imbalance reserve product benefits EDAM entities and that the CAISO EDAM Benefits Study made assumptions that may not be justified.¹⁵ The CAISO disagrees. The August 22 Filing explained how co-optimized procurement of imbalance reserves will provide several benefits compared to relying on the existing day-ahead market design – namely, benefits from improved unit commitment, enhanced market efficiency, ability to meet real-time operational needs more effectively, and increased feasibility of integrated forward market exports.¹⁶

Although the CAISO EDAM Benefits Study did not demonstrate specific benefits to an individual potential EDAM entrant, the study ably demonstrated that imbalance reserves would provide net benefits to an EDAM footprint in the

¹⁵ NV Energy at 2-3, 27-29 (citing CAISO EDAM Benefits Study prepared by Energy Strategies (CAISO EDAM Benefits Study), available at <http://www.aiso.com/Documents/Presentation-CAISO-Extended-Day-Ahead-Market-Benefits-Study.pdf> and discussed at pages 12 and 101-02 of the transmittal letter for the August 22 Filing).

¹⁶ Transmittal letter for August 22 Filing at 53-55.

aggregate. There is no basis to believe that NV Energy somehow would be excluded from those benefits if it were part of EDAM. Even if there were some reason to believe this were the case, EDAM is a voluntary construct and NV Energy can judge for itself whether imbalance reserves procurement in an EDAM provides value to NV Energy. Each other potential EDAM entrant must be given the opportunity to make that same judgment. Rejecting the DAME proposal on the basis NV Energy states would take that chance away from other entities and substitute the Commission's judgment for the judgment of those utilities as to whether an EDAM with imbalance reserves represents an appropriate value proposition.

2. The CAISO Has Provided Ample Justification for the Downward Imbalance Reserves Product

Bonneville argues that the CAISO did not sufficiently explore the need for the downward imbalance reserves product in the stakeholder process and asks that the Commission direct the CAISO to further explore downward products to support price formation.¹⁷ The CAISO disagrees that any such Commission action is necessary. The CAISO justified the downward products both during the working group process and in the August 22 Filing.¹⁸ The Commission has a full record to determine the reasonableness of the proposal as filed to implement these downward products.

¹⁷ Bonneville at 18. Bonneville's comments use the verb "explore" referring to the downward products. The CAISO assumes that in framing the request this way, Bonneville is requesting the CAISO explore not having imbalance reserves down to match imbalance reserves up.

¹⁸ See, e.g., transmittal letter for August 22 Filing at 47, 49-57.

3. Parties Have Provided No Basis to Find Imbalance Reserves Will be Counterproductive or Harmful to the Market

As discussed below, NV Energy expresses general concerns about purported harms that imbalance reserves might pose to the market processes. The Commission should find these general concerns are groundless.¹⁹

NV Energy claims that EDAM entities could face higher reserve requirements with DAME and EDAM than they do today.²⁰ NV Energy provides no support for this argument and in any event it could be supported only on an apples-to-oranges basis. The nature of whatever reserve products NV Energy procures today would be fundamentally different from the nature of the imbalance reserve product it will procure in EDAM. Thus, simply pointing to a megawatt-hour (MWh) difference in procured quantities, to the extent there may be an increase, does not reflect that an EDAM entity would be harmed, because the quality of the imbalance reserve product is higher than the existing products. Focusing solely on (MWh) quantities also ignores the price component. There is every reason to believe the cost of comparable reserves would decrease in the deeper market that EDAM would represent, especially with the diversity benefit embedded in the procurement approach.²¹

NV Energy also argues that implementing imbalance reserves may create unintended consequences, such as potentially affecting energy locational

¹⁹ In sections III.B and III.C of this Answer, the CAISO addresses commenters' arguments regarding the alleged harms of specific design elements of the imbalance reserves product.

²⁰ NV Energy at 28.

²¹ See transmittal letter for August 22 Filing at 101-02.

marginal prices (LMPs) or delaying day-ahead market results which would exacerbate concerns with gas management.²² It is impossible for the CAISO or stakeholders to be certain that imbalance reserves will pose no unintended consequences, which is why the CAISO has committed to monitor the new market structure closely and consider further refinements as warranted.²³ The potential consequences that NV Energy describes should raise no concern. The market will co-optimize procurement of imbalance reserves with energy and ancillary services to enhance the efficiency of unit commitment by securing flexible reserves in a way that effectively considers the trade-offs between providing energy, ancillary services, and imbalance reserves.²⁴ Because of that, there is little doubt DAME will affect energy prices as compared with today. Contrary to the claims of NV Energy, however, the CAISO provided substantial analysis on this issue during the stakeholder process.²⁵ There is also little reason to believe the deployment scenarios, on their own, will materially affect solve times for the day-ahead market to the extent the deployment scenarios would delay timely posting of day-ahead market results.²⁶ In the context of the

²² NV Energy at 29.

²³ See, e.g., transmittal letter for August 22 Filing at 57, 71.

²⁴ *Id.* at 3, 8, 46, 53-55.

²⁵ See <http://www.caiso.com/InitiativeDocuments/DraftTechnicalDescription-Day-AheadMarketEnhancements.pdf>; <http://www.caiso.com/InitiativeDocuments/DraftTechnicalDescriptionPresentation-Day-AheadMarketEnhancements-Jan04-2023.pdf>.

²⁶ The CAISO acknowledges other aspects of the combined DAME-EDAM proposal may result in later publication of day-ahead market results. NV Energy, however, raises its concerns solely regarding the imbalance reserves deployment scenarios and not regarding the other design elements that may lead to later posting of market results.

overall market solution process, the deployment scenarios will pose relatively small computational burden.

In addition, NV Energy states it supports further stakeholder consideration of an hourly or multi-hour mid-term product that procures uncertainty based on the real-time forecasted need.²⁷ The CAISO is open to considering with stakeholders incremental changes to the design of the imbalance reserves product as needed. However, the August 22 Filing explained why the proposed design of the product is just and reasonable, and proposing a potential alternative does not undermine the CAISO's explanation. "Pursuant to section 205 of the FPA [Federal Power Act], the Commission limits its evaluation of a utility's proposed tariff revisions to an inquiry into 'whether the rates proposed by a utility are reasonable – and not to extend to determining whether a proposed rate schedule is more or less reasonable to alternative rate designs.'"²⁸

Therefore, "[u]pon finding that CAISO's Proposal is just and reasonable, [the Commission] need not consider the merits of alternative proposals."²⁹

Furthermore, "[t]he courts and th[e] Commission have recognized that there is

²⁷ NV Energy at 29.

²⁸ *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44 n.43 (2012) (quoting *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984)). In that same order, the Commission also explained that the revisions proposed by the utility "need not be the only reasonable methodology" and that "even if an intervenor develops an alternative proposal, the Commission must accept a section 205 filing if it is just and reasonable, regardless of the merits of the alternative proposal." 141 FERC ¶ 61,135, at P 44 n.43 (citing federal court and Commission precedent). See also *New Eng. Power Co.*, 52 FERC ¶ 61,090, at 61,336 (1990), *aff'd sub nom. Town of Norwood v. FERC*, 962 F.2d 20 (D.C. Cir. 1992) (proposed rate design need not be perfect, it merely needs to be just and reasonable); *Louisville Gas & Elec. Co.*, 114 FERC ¶ 61,282, at P 29 (2006) (the just and reasonable standard under the FPA is not so rigid as to limit rates to a "best rate" or "most efficient rate" standard, but rather a range of different approaches often may be just and reasonable).

²⁹ *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44.

not a single just and reasonable rate. Instead, [the Commission] evaluate[s] proposals under FPA section 205] to determine whether they fall into a zone of reasonableness. So long as the end result is just and reasonable, the [proposal] will satisfy the statutory standard.”³⁰ For the reasons the CAISO has explained, its imbalance reserves proposal satisfies the standard required by FPA section 205.

B. The Proposed Limitations on DAME Imbalance Reserve Bids Are Just and Reasonable

1. Limiting Imbalance Reserve Bids Based on a Maximum 30-Minute Ramp Capability

No commenter specifically opposes the proposal to base a resource’s imbalance reserves eligibility on its 30-minute ramping capability requirement.³¹ However, PG&E states that the 30-minute ramping period will create higher prices than a longer ramp period, and requests that the Commission order the CAISO to provide a compliance report within one year of DAME becoming effective regarding resource availability and pricing for imbalance reserves.³² DMM recommends that the CAISO consider a future enhancement to allow capacity that is dispatchable within 60 minutes or longer, including hourly block intertie resources, to meet demand for reserves needed to address uncertainty between the day-ahead and real-time markets, while maintaining a 30-minute

³⁰ *Cal. Indep. Sys. Operator Corp.*, 140 FERC ¶ 61,168, at P 17 (2021) (citing court and Commission precedent).

³¹ See transmittal letter for August 22 Filing at 56-57.

³² PG&E at 16.

requirement to meet needs that likely would remain unmet with a 60-minute requirement.³³

The Commission should accept the proposal as filed without requiring a compliance report. Many aspects of DAME, including the question of the ramp capability requirement, involve tradeoffs among cost, reliability, and complexity. For example, the CAISO agrees with PG&E's comment that basing award eligibility on a longer ramping period might lower the costs of procuring imbalance reserves by increasing the available pool of capacity. Making the requirements less stringent, however, would reduce the direct procurement costs at the expense of devaluing the product. Getting a sufficient quantity of an insufficient product would not necessarily address the issues DAME is meant to resolve. DMM's suggestion to create a 30-minute ramping capability requirement and a looser 60-minute ramping capability requirement for both directions similarly poses the potential for lowering costs but it that may not meet the CAISO's operational needs. In adding two bi-directional forms of imbalance reserves, the CAISO also would need to consider the cost of the additional complexity to the overall market design and optimization processes. The CAISO is concerned this approach would add additional complexity that is unnecessary (and potentially counter-productive) at the outset of the new market design.

As explained in section III.R.2 of this Answer, the CAISO already engages in ongoing monitoring and reporting on market performance. The CAISO has committed to include DAME and EDAM in that monitoring and reporting. There

³³ DMM at 7-8.

is no need for the Commission to require specific reporting in this proceeding, as PG&E requests. Based on the monitoring the CAISO has committed to conduct and operational experience, the CAISO intends to consider proposals to address significant issues that may arise and develop enhancements for future consideration by the Commission. Those enhancements conceivably could include changes along the lines suggested by PG&E and DMM. As explained in section III.S of this Answer, however, such future design changes and potential enhancements are beyond the scope of this proceeding, in which the CAISO has explained that its proposed tariff revisions are just and reasonable and should be accepted on that basis.

2. Capping Imbalance Reserve Bids at \$55/MWh

Vistra, WPTF, and Shell Energy oppose the proposal as filed to limit bids for imbalance reserves to \$55/MWh.³⁴ Specifically, these commenters argue that the CAISO has not justified how the connection between the proposed imbalance reserves and other products justifies the \$55/MWh bid cap, that the CAISO's analysis setting the \$55 price is not based on a robust dataset, that the bid cap is too low to permit adequate cost recovery, and that the \$55 bid cap runs contrary to the Commission's principles of ancillary service pricing. The CAISO addresses these arguments in the subsections below.

³⁴ See transmittal letter for August 22 Filing at 56-57, 67. Many of these arguments and the CAISO's responses in this Answer apply equally to the CAISO's proposed \$55/MWh default availability bid and its proposed \$55-per-megawatt (MW) cap on the demand curve penalty price. See *id.* at 7, 8-9, 24, 56-57, 65-71.

a. The CAISO Has Ably Justified the Relationship Between Imbalance Reserves and Other Products

Vistra, EPSA, and WPTF argue that the proposal as filed is flawed on the grounds that the CAISO purportedly failed to justify the connection between the proposed \$55/MWh bid cap and the high percentile level of spinning reserves bids during the review period.³⁵ Shell Energy separately argues the CAISO's analysis is based on a false premise that additional spinning reserves are a direct replacement for imbalance reserves.³⁶ Vistra also points to the differential between the proposed bid cap for imbalance reserves at \$55/MWh and the current \$247/MWh penalty price for the flexible ramping product (FRP).³⁷

The CAISO consistently has explained the connection between spinning reserves and imbalance reserves and how that connection supports initially setting the bid cap at a high percentile of spinning reserves offers.³⁸ The CAISO is well aware that the imbalance reserve and spinning reserve products are different. But to establish the bid cap, the relevant issue is the costs to a supplier

³⁵ EPSA at 7; Vistra at 3-4, 7; WPTF at 5-6. Vistra makes a material misstatement of a component the proposal as filed. The bid cap is based on the 80th percentile bids, not simply "an average of bid prices," as Vistra incorrectly states. See Vistra at 3. As explained in the August 22 Filing, the \$55/MWh bid cap represents the costs the CAISO likely (slightly above the 80th percentile) would have to procure in foregoing procurement of a MW of imbalance reserves; \$55/MWh is the same as the default availability bid discussed in section III.C.6 of this Answer. See transmittal letter for August 22 Filing at 57, 67.

³⁶ Shell Energy at 13-14.

³⁷ Vistra at 13. Although Vistra does not state this directly, Vistra seems to view the flexible ramping product as a more apt comparison, implying that the \$55/MWh imbalance reserves bid cap is too low.

³⁸ See, e.g., transmittal letter for August 22 Filing at 67 ("Spinning reserve bids are a reasonable approximation of a resource's cost to provide imbalance reserves because the obligations of providing the product are similar. . . . After the CAISO and its stakeholders gain experience with imbalance reserves, the CAISO will re-evaluate the default availability bid value with stakeholders and update it as appropriate.").

of meeting the different requirements of the product and whether the CAISO would allow adequate opportunities to recover the costs.

There is ample reason to believe the costs of providing the products are similar. Spinning reserves is the biddable reserve product closest in nature to the proposed imbalance reserves. Given the similar nature of the performance obligation between the two products, the CAISO expects the cost to provide the two services are likewise roughly comparable. For that reason, the CAISO expects that a bid cap set to the extreme high end of offers for spinning reserves will capture the likely bid costs of providing imbalance reserves. The CAISO also recognizes that it would be inappropriate for the CAISO to implement this product with no form of market power mitigation. The bid cap and demand curve cap serve as this mitigation initially. As the CAISO and market participants enter the implementation phase of this effort and even after implementation, the CAISO will provide opportunities to evaluate these caps and consider changes based on updated market data. If any changes are needed, it will coordinate and review these potential changes with stakeholders and propose the necessary tariff amendments for Commission approval. But meanwhile, the CAISO needs to start with a value. The data available at this time and the comparability between the products provides a sufficient basis for the Commission to find the proposed bid cap is within the zone of reasonableness and thus satisfies the requirements of FPA section 205.³⁹

³⁹ See the discussion of the requirements of FPA section 205 in section III.A.3 of this Answer.

The proposal as filed is not based on the assumption that the CAISO could in the operating time frame trade off procurement of some quantity of imbalance reserves for spinning reserves, or vice versa. The spinning reserves requirements will continue to be set based on applicable reliability standards. Nor is the CAISO arguing that the two products are interchangeable or substitutable on a day-to-day basis. The connection between the two products, however, is based on a counterfactual analysis of what would happen if the CAISO were to not implement imbalance reserves and stop relying on persistent manual adjustments in the residual unit commitment (RUC) process. Insufficient ramping capability in real-time can create operating contingencies requiring the CAISO to convert spinning reserves to energy. This is a genuine challenge that cannot be ignored or assumed away, as some commenters seem to wish. To maintain compliance with North American Electric Reliability Corporation (NERC) reliability standards, the CAISO would have to backfill those spinning reserves. Thus, absent an imbalance reserves product and the continued market distortions of the existing RUC adjustments, the CAISO likely will wind up procuring more spinning reserves to stay within existing reliability standards.

Vistra's reference to the differential between the imbalance reserves cap and the flexible ramping product penalty price does not suggest a fundamental flaw in setting the imbalance reserves bid cap. That differential is justified. Running short of flexible ramping product in the real-time market imposes greater risks to the CAISO as compared to the risks if the CAISO ran short of imbalance reserves in the day-ahead market. This is because in the real-time, the CAISO

has fewer alternative options to meet its operational needs. Given that the costs of foregoing flexible ramping product are higher than the costs of imbalance reserves, it is just and reasonable for the CAISO to have a higher penalty price for the flexible ramping product than for the imbalance reserves product.

b. The Bid Cap Was Developed Based on Sufficiently Robust Data

WPTF and Shell Energy both argue that, to the extent there is a connection between historical spinning reserves offers and the imbalance reserves bid cap, the CAISO's analysis is not based on a robust dataset. WPTF asserts the analysis is flawed, and thus the bid cap is insufficiently justified, because it is based on data from a six-month period (January-June 2022) that did not cover peak load periods.⁴⁰ Shell Energy separately argues the CAISO analysis is flawed because it is based on spinning reserve bids for the CAISO footprint but does not account for what offers would be in the potential broader EDAM footprint.⁴¹

The CAISO appropriately based its analysis on data from the first six months of 2022. The composition of the CAISO's generation fleet has continued to evolve at increasing rates. The continued influx of variable energy resources and storage resources has fundamentally changed the resource mix, which has shifted the CAISO's need for spinning reserves, the prices paid, and the prices bid. Limiting the review period to the first half of 2022 was a reasonable choice to more closely base the analysis on the conditions that will be in place upon

⁴⁰ WPTF at 5-6.

⁴¹ Shell Energy at 13.

implementation of DAME. The six-month period that was the basis of the CAISO analysis was the most recently available data when the stakeholder initiative was considering the bid cap, and thus the CAISO moved forward with developing its proposal based on that data.

Shell Energy's argument about the CAISO's failure to account for spinning reserves offers outside the CAISO ignores that, as to the broader EDAM footprint, there are no spinning reserves bids to evaluate. There will not be bid spinning reserves bids to evaluate after EDAM go-live because ancillary services will not be part of EDAM. The CAISO's analysis is based on the best available evidence to predict what will be reasonable for a future market product.⁴²

Moreover, the CAISO has repeatedly committed to evaluate these values once it has actual market experience with DAME and EDAM. The proposed values are based on the best evidence that exists now and are within the zone of reasonableness required by FPA section 205.⁴³ If and when better evidence emerges, the CAISO will reevaluate and potentially amend the tariff.⁴⁴ It is thus incorrect for WPTF to suggest the values are immutable.

⁴² If EDAM were to evolve to include bid-in ancillary services, the CAISO would review that data and consider appropriate adjustments to the bid cap.

⁴³ See the discussion in section III.A.3 of this Answer.

⁴⁴ Even if the CAISO were to not meet the commitment it has made, any interested entity could file a complaint under FPA section 206 to argue that the values following go-live turned out to be unjust and unreasonable.

c. The Proposed Bid Cap is Sufficient to Permit Cost Recovery and Provides Adequate Incentives for Resources to Offer to Supply the Imbalance Reserves Product

Citing the Commission's Order No. 831, *Vistra* states that the Commission has found that limitations on offers and price that prevent sellers from incorporating their costs into their bids are unjust and unreasonable.⁴⁵ *Vistra* claims that resources may be unable to recover opportunity costs under a \$55/MWh bid cap, in purported violation of Commission precedent.⁴⁶ *Vistra* also argues that the bid cap is excessively low and will create a disincentive for market participants to offer the product, particularly in times of tight supply when the imbalance reserves product is most needed.⁴⁷ WPTF and EPSA similarly argue that the \$55/MWh bid cap will distort market price signals, prevent the CAISO from securing sufficient imbalance reserves when needed most, and potentially harm reliability.⁴⁸

The commenters make no showing that the proposal as filed contravenes Order No. 831, in which the Commission directed Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) to revise their caps on incremental energy offers.⁴⁹ Neither *Vistra* nor any other commenter has

⁴⁵ *Vistra* at 9.

⁴⁶ *Id.* at 11-12.

⁴⁷ *Id.* at 3-4, 7.

⁴⁸ EPSA at 7; WPTF at 3.

⁴⁹ *Offer Caps in Mkts. Operated by Reg'l Transmission Orgs. & Indep. Sys. Operators*, Order No. 831, 157 FERC ¶ 61,115 (2016) (Order No 831), *order on reh'g & clarification*, Order No. 831-A, 161 FERC ¶ P 61,156 (2017). In 2020, the Commission accepted tariff revisions submitted by the CAISO to comply with Order No. 831 and related tariff revisions

provided evidence of the direct costs of providing imbalance reserves. In fact, those costs cannot be known for certain until after DAME goes live. DMM, the Market Surveillance Committee, and the WEIM Governing Body Market Expert all agree the \$55/MWh bid cap is reasonable as an initial starting point until actual market experience provides more information to ascertain the costs to provide imbalance reserves.⁵⁰

Vistra and other stakeholders did not respond to repeated requests by the CAISO during the stakeholder process to demonstrate the costs resources would face to provide imbalance reserves, and provided no concrete evidence that costs to provide imbalance reserves are likely to exceed \$55/MWh. Nor does Vistra provide such evidence now. Further, the commenters complaining about the unnecessarily low values were invited in the stakeholder process to propose alternative formulations of the costs to provide imbalance reserves and a reasonable bid cap. But neither in the stakeholder process nor in their comments do they suggest a reasonable alternative or provide tangible reasons to explain how their costs would exceed \$55/MWh.

The most that Vistra states about the costs of providing the imbalance reserves product is that \$55/MWh may not reflect the opportunity costs of

to implement cost and default energy bid enhancements. See *Cal. Indep. Sys. Operator Corp.*, 172 FERC ¶ 61,262 (2020); *Cal. Indep. Sys. Operator Corp.*, 172 FERC ¶ 61,263 (2020).

⁵⁰ See DMM at 5-6; Final Opinion of Market Surveillance Committee on Day-Ahead Market Enhancements at 17, 20 (May 3, 2023), available at <http://www.caiso.com/Documents/MarketSurveillanceCommitteeFinalOpiniononDay-AheadMarketEnhancements.pdf>; Opinion of WEIM Governing Body Market Expert on Day-Ahead Market Enhancements at 10, (May 10, 2023, with addendum from May 15, 2023), available at <https://www.westerneim.com/Documents/WEIMGoverningBodyMarketExpert-OpiniononDay-AheadMarketEnhancements-Memo-May2023.pdf>.

providing the product. But to provide any support for opportunity cost recovery, Vistra would need to identify what more profitable opportunity it would forego for providing imbalance reserves and why the proposed rules would forbid Vistra from taking advantage of that hypothetically more profitable opportunity. Vistra has not even attempted to make such a showing, much less succeed in doing so.

The following example demonstrates how opportunity costs arise with imbalance reserves. Consider an hour when the clearing price for energy is \$500/MWh and resource's energy bid is \$100/MWh. In that same hour the clearing price for imbalance reserves is \$55/MWh and the resource's bid is also \$55/MWh. In that scenario, if the resource is awarded imbalance reserves over energy, it would have a reasonable claim that its award of imbalance reserves imposed an opportunity cost of \$400 (*i.e.*, \$500 minus \$100). If awarded energy, it would have had rents of \$400, whereas with imbalance reserves, it earned zero rents because its bid matched the clearing price.

The fatal flaw with Vistra's claim is that the proposal to co-optimize procurement of energy, ancillary services, and imbalance reserves is explicitly designed to avoid this scenario. Under the scenario, the proposed imbalance reserves demand curve will lead to the CAISO relaxing imbalance reserves procurement in favor of energy because the energy is so much more valuable in this market interval. The CAISO's co-optimization will embed within it the trade-offs, and thus the opportunity costs, to a resource of being awarded one product over the other. Therefore, in formulating their bids suppliers need not consider opportunity costs of the nature described by Vistra.

Vistra states it has a growing fleet of flexible storage resources.⁵¹ Those resources stand poised to be a major beneficiary of the imbalance reserves product. They would stand to benefit even more if the CAISO did not mitigate imbalance reserves. However, it would turn the FPA's mandate of just and reasonable rates on its head if the Commission were to credit the foregone profits from imposing market power mitigation as an opportunity cost that is owed recovery.

Vistra's citations to Commission precedent are unavailing and inapposite. The two orders that Vistra cites both addressed Commission acceptance of tariff amendments that included *proposals by the filing utilities* to allow recovery of opportunity costs; neither order indicates the filing utilities were *required* to allow opportunity cost recovery.⁵² Indeed, other Commission orders present recovery of opportunity costs as an option (where appropriate) rather than a requirement the utility must ensure.⁵³

⁵¹ Vistra at 2-3.

⁵² See *Sw. Power Pool, Inc.*, 180 FERC ¶ 61,088 (2022); *Cal. Indep. Sys. Operator Corp.*, 156 FERC ¶ 61,226 (2016).

⁵³ See, e.g., *PJM Interconnection, L.L.C.*, 161 FERC ¶ 61,295, at P 31 (2017) ("To the extent that PJM finds over-generation from price-chasing resources to be a potential problem after considering the identified modifications, we encourage PJM to develop any necessary changes or additions to address this issue and include those changes in its compliance filing to ensure that its fast-start pricing logic does not cause over-generation nor lead to incentives for resources to deviate from PJM's dispatch instructions. PJM *may consider approaches such as* penalizing uninstructed deviations, settling over-generated MWh at only standard LMP (not at the higher prices determined through fast-start pricing), *or providing for lost opportunity cost payments.*") (Emphasis added.); *NextEra Energy Seabrook, LLC, et al.*, 182 FERC ¶ 61,044, at P 102, *reh'g denied in relevant part*, 183 FERC ¶ 61,196, at PP 36-46 (2023) ("While the Commission has allowed recovery of opportunity costs in specific circumstances, which typically involve sellers providing an ancillary service that prevents the seller from providing and being paid the market price for energy, we agree with Avangrid that such circumstances are not present here.").

There is no merit in the concern of WPTF and EPSA that the bid cap will distort price signals. Based on the proposed co-optimization, imbalance reserves will affect energy market prices. This represents a distortion only to the extent the new prices give a false account of the value of the respective products. The proposal as filed, however, does the opposite. By creating clear prices on the cost of addressing the need for flexible reserves, the proposal as filed corrects existing distortions created by the need for manual interventions in RUC. This is the market appropriately pricing in the need to be ready to meet uncertainty when it materializes. The entire point of imbalance reserves is to price uncertainty and make it transparent instead of having it show up through RUC adjustments. The demand curve (discussed below in section III.C.2 of this Answer) sends an unmistakably clear price signal. The product is not worth more than \$55/MWh.

Nor is there merit in the claims by WPTF and EPSA that a bid cap will harm reliability. Due to both the bid cap and the demand curve cap (the latter discussed below in section III.C.2 of this Answer), the CAISO intentionally will forego imbalance reserves procurement when the product is more expensive than the operational value the imbalance reserves would provide. The CAISO has made a reasoned determination that above a certain price, it is more advisable to rely on other tools and products, such as FRP, to address ramping needs. As explained in the August 22 Filing, this is an approach taken by other ISOs/RTOs in procuring reserve products.⁵⁴ This is a prudent and reasonable

⁵⁴ Transmittal letter for August 22 Filing at 69-71, 96-97.

approach, and no commenter explains how this would degrade reliability compared to the status quo.

d. The Ancillary Services Pricing Principles Under Order No. 719 Are Not Relevant to Imbalance Reserves, but the CAISO Nevertheless Meets Them

WPTF argues the \$55/MWh bid cap violates Commission policy regarding ancillary service price formation in Order No. 719 that prices for ancillary services products should be based on the highest marginal opportunity cost incurred by a resource to provide the ancillary services rather than energy.⁵⁵ However, in the portion of Order No. 719 that WPTF cites, the Commission “adopt[ed] the proposed rule on price formation during times of operating reserve shortage.”⁵⁶ Imbalance reserves are not operating reserves or any other type of ancillary service.

Even if the Order No. 719 pricing guidance did apply, the proposal as filed would be consistent with it. Order No. 719 established pricing requirements intended to “produce prices that accurately reflect the value of energy.”⁵⁷ The proposed bid cap and pricing approach are based on the highest opportunity cost incurred by a resource to provide imbalance reserves rather than energy. The co-optimization will be structured such that if the opportunity cost of providing imbalance reserves over energy is greater than \$55/MWh, the market will not procure imbalance reserves and the resource would not get an imbalance

⁵⁵ WPTF at 6-7.

⁵⁶ *Wholesale Competition in Regions with Organized Elec. Mkts.*, Order No. 719, 125 FERC ¶ 61,071, at P 192 (2008) (Order No. 719).

⁵⁷ *Id.* at P 192.

reserves award. With no imbalance reserves award, the resource faces no opportunity cost because the market did not hold the resource back from energy to provide a reserve product. In this way, the awarded prices for imbalance reserves will reflect the marginal opportunity cost of the awarded suppliers.

C. The Proposed Procurement of DAME Imbalance Reserves Is Just and Reasonable

1. Establishing the 95 Percent Uncertainty Procurement Target as an Appropriate Risk Mitigation Measure

NV Energy argues that the CAISO has not sufficiently justified the use of a 95 percent uncertainty requirement (*i.e.*, setting the up and down uncertainty requirements at the 97.5 percentile and 2.5 percentile levels of error, respectively) and did not provide data supporting the level of uncertainty that should be covered by imbalance reserves.⁵⁸ WPTF also objects to this aspect of the proposal, stating that the assumption of uncertainty will be inaccurate 94.9% of the time.⁵⁹

The proposal as filed is within the zone of reasonableness and thus satisfies the requirements of FPA section 205.⁶⁰ As explained in the August 22 Filing, the specific percentile levels of uncertainty to which the market will procure imbalance reserves up and down will be defined in the BPM. The CAISO explained that this approach is “[c]onsistent with the current approach for the

⁵⁸ NV Energy at 28-29.

⁵⁹ WPTF at 16.

⁶⁰ See the discussion of the requirements of FPA section 205 in section III.A.3 of this Answer.

flexible ramping product.”⁶¹ The CAISO also explained that setting the up and down requirements at the 97.5 and 2.5 percentile levels of error was the initial intent, but that these parameters would be subject to ongoing evaluation based on operational experience and subject to appropriate adjustments through the BPM Proposed Revision Requests (PRR) process – a practice that NV Energy does not oppose.⁶²

Any attempt to frame the percentile levels as reflecting a necessary level of certainty to procure misapprehends the nature of the product. Imbalance reserves effectively represent the market buying insurance against not having sufficient up or down flexibility in real-time. There is no single “necessary” or “correct” amount of insurance. As part of the rigorous stakeholder process, the CAISO and market participants determined that targeting a 95 percent uncertainty level provided an appropriate level of protection given the various considerations involved. The express purpose of the product is to procure sufficient imbalance reserves to meet an extreme level of uncertainty. This means in perfect hindsight on most days the market will have bought more “insurance” than it needed. However, contrary to WPTF’s argument, that does not reflect a flaw in the proposal as filed. To analogize to another type of

⁶¹ Transmittal letter for August 22 Filing at 69. Pursuant to new tariff section 31.3.1.6.1, imbalance reserves requirements will set in accordance with the BPM “to capture the anticipated levels of upward and downward Net Load Forecast deviations between the Day-Ahead Market and the Fifteen-Minute Market, respectively, within a specified confidence interval.” As with the August 22 Filing (see footnote 13 of its transmittal letter), for the sake of clarity this Answer distinguishes between existing tariff provisions (*i.e.*, provisions in the current CAISO tariff), new tariff provisions (*i.e.*, tariff provisions the CAISO proposes to add in the August 22 Filing), and revised tariff provisions (*i.e.*, existing tariff provisions the CAISO proposes to revise in the August 22 Filing).

⁶² *Id.* at 69.

insurance, every day a person drives a car and does not have an accident is not a day the person should be criticized for having purchased the wrong amount of car insurance.

Framing the matter in terms of a single necessary level of reserves also misunderstands the proposed procurement approach. The CAISO proposes the market will procure the product based on a demand curve that strikes an appropriate balance between cost and reliability. This means the market will forego procurement to the full 95 percent level if the costs do not justify that level of procurement in an individual market interval. That is, the given percentile levels do not even directly dictate the quantity of imbalance reserves the market will procure.

2. Setting the Demand Curve Penalty Price at \$55/MW

Similar to their arguments against the proposed \$55/MWh bid cap, WPTF, Vistra, and EPSA also argue the CAISO has not sufficiently justified its proposed \$55/MW demand curve penalty price.⁶³ The CAISO's responses in section III.B of this Answer regarding the limitations on imbalance reserve bids also address the arguments regarding the penalty price that will serve as a cap on procurement.

The penalty price determined through the stakeholder process represents a reasonable determination that the imbalance reserve product is not worth procuring at a price above \$55/MW.⁶⁴ Again, this determination is based on a

⁶³ EPSA at 6-7; Vistra at 10-11; WPTF at 3, 7-9.

⁶⁴ Transmittal letter for August 22 Filing at 69-70.

trade-off between cost and risk. Continuing to procure the product at higher prices would marginally reduce the risk of having inadequate reserves to meet load imbalances. But the stakeholder process revealed that, at those higher prices, the cost does not justify the additional benefit. If the absence of imbalance reserves caused a contingency that led to converting spinning reserves to energy and in turn required the market to backfill and procure additional spinning reserves to stay within reliability standards, that procurement will likely be achievable at prices below \$55/MW. This is why it is reasonable to cap the procurement curve at \$55/MW by setting that as the penalty price. Based on these considerations, setting the penalty price at \$55/MW is within the zone of reasonableness and thus satisfies the requirements of FPA section 205.⁶⁵

3. Procuring Imbalance Reserves Nodally

Vistra, WPTF, and SDG&E question the proposal to procure imbalance reserves at a nodal level rather than on a system or zonal basis.⁶⁶ The Commission should not find those commenters' claims support a finding that the proposal as filed is unjust and unreasonable.

Vistra asserts that making imbalance reserves a nodal product will create phantom congestion and distort market prices without actually addressing the deliverability issue that nodal procurement is intended to solve. Vistra views this

⁶⁵ See the discussion of the requirements of FPA section 205 in section III.A.3 of this Answer.

⁶⁶ See transmittal letter for August 22 Filing at 71-72.

so-called phantom congestion as potentially undermining incentives for the operation and development of energy storage resources capable of meeting the CAISO's long-term needs for flexibility.⁶⁷ Vistra points to the experience with FRP in support of its view that making a product a nodal product does not guarantee deliverability.⁶⁸

As explained above,⁶⁹ “[u]pon finding that CAISO’s Proposal is just and reasonable, [the Commission] need not consider the merits of alternative proposals.”⁷⁰ The CAISO demonstrates in the August 22 Filing and below in this section III.C.3 of the Answer that the proposed nodal procurement approach is just and reasonable, and the Commission should disregard Vistra’s alternative proposal to use a zonal procurement approach.

The CAISO and stakeholders carefully examined a nodal versus a zonal procurement approach and found the nodal approach is preferable to maximize the product’s utility.⁷¹ The proposed nodal congestion pricing reflects the true costs of delivering energy or reserves under constraints, making the pricing and resulting dispatch more efficient rather than distorting them. No comments undermine the CAISO’s reasoned judgment in that regard. Vistra seems to argue that zonal requirements will support deliverability better than will nodal procurement. However, Vistra does not provide any basis for the Commission to

⁶⁷ Vistra at 23-26.

⁶⁸ *Id.* at 4, 7-8, 18-23.

⁶⁹ See section III.A.3 of this Answer.

⁷⁰ *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44.

⁷¹ Transmittal letter for August 22 Filing at 97-98.

find that the blunter tool of zonal requirements would promote deliverability over the more targeted and refined nodal procurement.

The purpose of nodal procurement is to maximize the likelihood that imbalance reserves capacity will be deliverable as energy in real-time when needed. A zonal approach, in contrast, ignores the reality that real-time congestion exists. Designing the product on the assumption that real-time congestion does not exist or can be assumed away devalues the imbalance reserves product. It is only natural, then, that by devaluing the product, zonal procurement would reduce direct costs of procuring imbalance reserves. But reducing direct congestion costs is not the same as reducing the costs imposed by congestion, including the losses of procuring undeliverable products. A zonal approach would not provide sufficient confidence the product would be deliverable in real-time and thus would perpetuate the existing inefficiencies of relying on manual RUC adjustments to ensure sufficient flexible capacity from the day-ahead market.

Importantly, the CAISO has never purported to guarantee that nodal procurement would guarantee deliverability in real-time. Such a guarantee would require that the CAISO could predict the future. If the CAISO could predict the future, then it could also avoid load imbalances and, in turn, would have no need to manually adjust RUC forecasts or create imbalance reserves. But, of course, the CAISO cannot predict the future. All it can do is make reasonable choices in light of available data to maximize the likelihood of the reserves being deliverable in real-time. Nodal procurement maximizes that likelihood.

The CAISO does not agree with Vistra's suggestion that nodal procurement would create "phantom congestion" that occurs in the deployment scenarios but is unlikely to occur in reality, and which will be reflected in LMPs and impose costs on the market.⁷² The CAISO agrees the deployment scenarios will impact LMPs for energy, but this is a natural result of co-optimizing procurement and it is misleading to refer to any such congestion as "phantom." The CAISO believes Vistra's comments inappropriately conflate congestion relating to energy and reserve products. Congestion arising from the deployment scenarios not materializing in the real-time is reasonable as imbalance reserves are a reserve product only used if uncertainty were to arise; the separate marginal cost of imbalance reserve congestion simply reflects the optimization ensuring the ability to deliver the award if the reserves are converted to energy.

Vistra's objections about costs appear to be premised on the mistaken assumption that the CAISO is not supposed to price congestion in the deployment scenarios and that imbalance reserves are useless. Its arguments present a one-sided analysis that looks solely at one type of cost increase without considering the benefits of more efficient procurement and the problems of the status quo. In particular, for storage resources, nodal imbalance reserves prices provide direct incentives for where the flexible attributes of a storage resource will be valued most.

Another drawback of zonal procurement is that it would make it considerably more difficult to adjust the congestion revenue right (CRR) process

⁷² See Vistra at 23-24.

to account for the congestion revenue displaced from the deployment scenarios. Zonal imbalance reserve procurement does not ensure deliverability as it does not consider the intra-zone network topology and limitations in awarding imbalance reserves. The CRR process is predicated on utilizing the expected network topology and known transmission network equipment limitations. This allows CRR market participants to nominate or purchase CRRs based on their expectation of day-ahead market results on a fixed model. CRR market participants will be disadvantaged, and the efficiency of the CRR market will be undermined, if day-ahead market results and the resultant congestion are not based upon physical limitations of the transmission system. Commenters make no attempt to address how the discrepancy between network topology being accounted for when running the CRR model and not fully accounted for in a zonal framework would be addressed.

WPTF argues that issues experienced with the FRP that led to nodal procurement of FRP are inapplicable to imbalance reserves because FRP is not a biddable product but instead is based on the opportunity cost of providing FRP over energy.⁷³ SDG&E generally suggests that imbalance reserves may benefit from a zonal approach, as it is uncertain if the nodal approach is appropriate.⁷⁴

WPTF supports its claims by pointing to differences in the products. But the points of distinction WPTF highlights do not explain why, given their significant similarities, a similar nodal procurement is likely to be inappropriate.

⁷³ WPTF at 20-21.

⁷⁴ SDG&E at 7-8.

The CAISO concedes FRP deliverability is based on real-time market congestion which involves more accurate deliverability predictions than day-ahead market awards of imbalance reserves. However, imbalance reserves are a day-ahead market product and need to operate on the best information available. Asserting the product is not just and reasonable because the CAISO cannot predict the future creates a hurdle no utility could ever clear in proposing market rules for Commission approval. Again, a nodal rather than a zonal procurement approach is preferable.

One final consideration is that the ramp deviation settlement, addressed in section III.D.2 of this Answer, would become infeasible if imbalance reserves were procured on a zonal basis. With FRP procured nodally and imbalance reserves procured zonally, the nature of procuring the products would become too dissimilar to impose a deviation/imbalance settlement. The result would be that resources could be paid twice for providing virtually the same product. This, too, provides another basis for finding that it is just and reasonable for the CAISO to use a nodal procurement approach.

4. Including in the BPM the Ability to Activate or Deactivate Individual Transmission Constraints and Set the Deployment Factor, and the Ability to Make Awards Based on Modeled State of Charge

Several commenters dispute the proposal to define in the BPM the deployment factor and the transmission constraints enforced in the deployment scenarios.⁷⁵ They argue that deferring these details to the BPM would hinder

⁷⁵ See transmittal letter for August 22 Filing at 100-01.

transparency, create uncertainty, harm the CRR process, increase operator discretion, and violate the Commission's rule of reason.⁷⁶ NV Energy also suggests to the extent these values are deferred to the BPM, the CAISO should bring the revised parameters to the WEIM Governing Body and the CAISO Governing Board for approval prior to implementation (absent exigent circumstances).⁷⁷ Relatedly, Vistra argues the proposal to award ancillary services and imbalance reserves to non-generator resources based on their modeled state of charge under a BPM-defined methodology violates the rule of reason.⁷⁸ The Commission should find that all of these arguments are without merit.

Comments suggesting the CAISO will not provide transparency regarding changes to the deployment factor and enforced transmission constraints are based on fundamental misunderstandings of the CAISO's existing BPM PRR process. That process involves extensive opportunities for stakeholder input as well as the opportunity to appeal to CAISO management and the CAISO Governing Board.⁷⁹ Any changes to these parameters will be made only as part of an open and transparent process, no different than the multitude of other

⁷⁶ Bonneville at 18, 19; NV Energy at 3-4, 29-30; Shell Energy at 11-12; Vistra at 2, 7, 28-30; WPTF at 12-13.

⁷⁷ NV Energy at 30-31.

⁷⁸ Vistra at 31-32 (citing transmittal letter for August 22 Filing at 74 and new tariff section 31.3.1.6.5).

⁷⁹ See BPM for BPM Change Management at sections 2.1 and 2.4. Entities can also make expedited requests for BPM changes. See *id.* at section 2.5. Furthermore, in emergency circumstances that require unilateral BPM changes, the CAISO solicits prior stakeholder input if practicable. See *id.* at section 2.6.

market parameters and processes established through the CAISO's various BPMs.

Moreover, specific to the proposed use of the BPM to define the deployment factor and the methodology to determine enforced transmission constraints, the CAISO has posted on its website a detailed matrix that identifies how it intends to tune those configurable parameters during testing, implementation, and after go-live. Consistent with its commitment to stakeholders, the CAISO Governing Board, and the WEIM Governing Body, the CAISO will also launch a new stakeholder working group effort to evaluate and validate the settings of these configurable parameters. This validation process will be conducted openly with stakeholders and will inform and drive how the parameters will be set. Preparations for this effort will begin early next year and all stakeholders will have an opportunity from the outset to shape how this effort unfolds to ensure they are able to fully and knowledgeably evaluate the implications of the parameter settings. The CAISO has also committed to work with DMM and the Market Surveillance Committee to report on the performance of alternative parameters and settings before and after implementation of DAME.⁸⁰ These measures will enhance the transparency of using the BPM to tune the parameters.

In response to NV Energy's specific request that the CAISO receive prior approval from the CAISO Governing Board and WEIM Governing Body before making any revisions, the CAISO has committed to brief the CAISO Governing

⁸⁰ Transmittal letter for August 22 Filing at 101.

Board and WEIM Governing Body on all aspects of DAME and EDAM, including implementation, market simulation, and market performance. The role of the tunable parameters will be part of that briefing. The CAISO's various BPMs contain many other parameters, rules, and processes. The BPM process ensures stakeholders have visibility into how each parameter is set and allows for an appeal process all the way to the CAISO Governing Board or WEIM Governing Body should stakeholders disagree with the setting of the parameters.⁸¹

The CAISO appreciates that commenters are concerned about the market having sufficient certainty regarding market parameters prior to participating in the market and to ensure that market prices send stable signals. Again, however, the CAISO will deploy a robust and extensive effort to ensure the configurable parameters are validated and tested in an open and transparent process. In addition, it is worth underscoring that the CAISO BPM PRR process provides multiple opportunities to understand, review, and comment on the parameter settings. The BPM change management process normally takes about two months to complete.⁸² Any suggestion the CAISO is reserving for itself the ability to change parameters, not dependent on system topology, at will on a

⁸¹ NV Energy's suggestion indirectly raises a separate issue with the BPM PRR appeals process that the CAISO will look to address. The appeals process currently involves only the CAISO Governing Board and not the WEIM Governing Body. See BPM for BPM Change Management at section 2.4.10. To the extent an entity wishes to appeal a BPM revision that involves an item under joint authority, the CAISO believes it is reasonable for that appeal ultimately to be considered by both the CAISO Governing Board and the WEIM Governing Body. The CAISO will address this issue in the near future as it seeks to implement the new joint governance.

⁸² The list of BPM change management requests currently in the PRR process is available on the CAISO website at <https://bpmcm.caiso.com/Pages/default.aspx>.

daily basis does not account for how the CAISO today adjusts BPM-defined parameters. Those parameters, as will be the case with the parameters at issue here, are largely meant to be static and adjusted only for clear and compelling reasons.

Nevertheless, the CAISO acknowledges particular stakeholder concern about deferring definition of the deployment factor to the BPM. The deployment factor is a unique element of the imbalance reserves procurement design and was established to strike the proper balance between procuring reliable amounts of imbalance reserves and the economic implications of imposing deliverability requirements. With respect to this parameter, it is important to test and validate the performance of possible factors before reaching a proper balance. Because the CAISO has not yet been able to perform this evaluation, it could not at this point specify the values that best balance the competing considerations. But once the CAISO and its stakeholders have the ability to conduct market simulation and analysis on the performance of various factor settings, the CAISO anticipates identifying a deployment factor value that generally will remain stable over time. Once that occurs, the criticality of being able to define the value in the BPM would be reduced. Accordingly, the CAISO would not object, if so ordered on compliance, to defining the deployment factor value in the tariff after it has completed the requisite testing and validation.⁸³

⁸³ If ordered on compliance to include the deployment factor value in the tariff, the CAISO would request authority to make temporary changes to the parameter without submitting a tariff amendment filing to the Commission, consistent with the temporary authority to alter scheduling run parameters the Commission recently approved. *Cal. Indep. Sys. Operator Corp.*, 184 FERC ¶ 61,119 (2023).

With respect to the request that the enforced constraints also be specified in the tariff, the CAISO's current approach to defining enforced constraints supports a finding that the BPM is the appropriate venue for defining methodologies used to govern constraint enforcement within the market. The CAISO today holds similar authority in defining the constraints enforced for the FRP and has responsibly exercised that authority by gradually introducing more constraints based on market analysis. Similarly, neither the CAISO tariff or BPMs today identify the specific constraints enforced for the energy market; rather, the BPMs define the rules that govern constraint activation. The absence of that detail in the tariff has not raised concerns about market certainty; likewise, retaining that same authority for enforced constraints for imbalance reserves should not raise any such concerns.

These same considerations apply to the impact on the CRR process. The CAISO today has certain discretionary authority over the CRR process, and in exercising that authority, the CAISO takes care not to make last-minute changes that unreasonably upset expectations that were the basis of CRR participation. The CAISO will continue to exercise its discretion judiciously in that regard.

Including these tunable parameters in the BPM and not in the tariff will not increase operator discretion. The CAISO has not proposed any new authorities for CAISO staff to manually intervene in market operations. To the contrary, DAME is intended to reduce operator interventions, and there is no reason to believe DAME will have the counter-productive impact of increasing use of manual RUC adjustments. The premise of the commenters' arguments seems to

be that the price caps and demand curve caps will be so low that not enough resources will bid imbalance reserves and the CAISO will be unable to meet its full requirements, thus requiring operator intervention. This premise is implausible given that flexible resource adequacy capacity has a must-offer obligation for imbalance reserves up, but even assuming *arguendo* that the premise were true, it would not provide a basis for rejecting the proposal. At most, it would highlight a concern that DAME will not fully eliminate operator interventions in RUC. But the CAISO has never suggested DAME will eliminate the need for such interventions, only that the CAISO expects DAME will significantly reduce the need for them.⁸⁴ Commenters fail to make any showing that the CAISO's expectation is unrealistic.

Lastly, the CAISO also disagrees with suggestions that its proposal violates the Commission's rule of reason. As the Commission has explained:

Decisions regarding whether an item should be placed in a tariff or in a business practice manual are guided by the Commission's rule of reason policy, under which provisions that significantly affect rates, terms, and conditions of service, are readily susceptible of specification, and are not generally understood in a contractual agreement must be included in a tariff, while items better classified as implementation details may be included only in the business practice manual.⁸⁵

The Commission has found in a number of proceedings that items can be included in a CAISO BPM because they are implementation details.⁸⁶

⁸⁴ See transmittal letter for August 22 Filing at 43-46, 55-56.

⁸⁵ *Midcontinent Indep. Sys. Operator, Inc.*, 169 FERC ¶ 61,137, at P 252 (2019) (internal quotation marks omitted) (citing *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985)).

⁸⁶ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 183 FERC ¶ 61,161, at P 44 (2023); *Cal. Indep. Sys. Operator Corp.*, 180 FERC ¶ 61,143, at PP 31, 42 (2022); *Cal. Indep. Sys. Operator*

Including the tunable parameters in the BPM satisfies the rule of reason, because the tariff provisions on imbalance reserve procurement provide an appropriate level of detail. The CAISO concluded the specific values of the tunable parameters do not significantly affect terms of service and need not be included in the tariff under the rule of reason.⁸⁷ This approach follows precedent about the level of detail in the CAISO tariff, including the Commission's recent order accepting the Energy Storage Enhancement Phase 1 tariff revisions.⁸⁸

As to Vistra's concern about the non-generator resource parameters being in the BPM, the arguments they raise here are virtually identical to the arguments the Commission rejected in that proceeding.⁸⁹

In an even more recent order, the Commission found that a CAISO proposal to define in the BPM those inerties that would have a lower shift factor threshold did not meet the rule of reason because the CAISO did not include "a description of the proposed methodology for identifying Interties with significant total transfer capability in the instant filing nor indicated whether it will include the methodology in its business practice manual or Tariff."⁹⁰ Those same concerns do not apply here. The CAISO here commits to specifying in the BPM, or in the tariff if so ordered on compliance, that the deployment factor and the

Corp., 162 FERC ¶ 61,042, at P 45 (2018); *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,229, at P 44 (2016); *Cal. Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,205, at P 61 (2015).

⁸⁷ Transmittal letter for August 22 Filing at 101.

⁸⁸ *Cal. Indep. Sys. Operator Corp.*, 183 FERC ¶ 61,161, at P 44.

⁸⁹ See *id.* at PP 27, 36, 44.

⁹⁰ *Cal. Indep. Sys. Operator Corp.*, 184 FERC ¶ 61,119, at P 25.

methodology used to determine the constraints enforced in the deployment scenarios will meet a risk/cost trade-off that strikes a balance between congestion costs and the operational benefit of clearing deliverable reserves.⁹¹

To summarize, including the tunable parameters in the BPM and not in the tariff is appropriate to “provide additional implementation details and transparency about the CAISO’s operations to market participants” and thus falls within the rule of reason.⁹²

5. Imbalance Reserves Procurement and Severability of the Deployment Factor

The August 22 Filing identified as severable from the balance of the DAME proposal the proposed flexible implementation of imbalance reserves procurement, which allows the CAISO flexibility to enforce transmission constraints and apply a deployment factor, respectively, in the imbalance reserves deployment scenarios.⁹³ WPTF argues that even with no deployment factor and with all constraints modeled in the deployment scenarios, the proposed procurement of imbalance reserves would still be unjust and unreasonable. WPTF claims enforcing 100 percent deliverability would harm price formation by sending inaccurate price signals. WPTF asserts an approach modeling 100 percent deliverability for imbalance reserves is dramatically different from how the CAISO approaches ancillary service procurement and

⁹¹ With respect to the deployment factor, the methodological statement would only be included in the BPM or tariff to the extent the CAISO is not ordered to include the specific deployment factor value in the tariff.

⁹² *Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271, at P 84 (2008).

⁹³ Transmittal letter for August 22 Filing at 24-25.

would harm reliability because nodally procured imbalance reserves would be more deliverable if called upon than zonally procured ancillary services.⁹⁴

WPTF's position seems to be that the deployment factor cannot be between 0 and 100 percent, and it also cannot be 100 percent. Similarly, WPTF contends that the CAISO cannot enforce all transmission constraints nor should the CAISO be permitted to enforce only a subset of those constraints. Clearly, WPTF opposes the concept of imbalance reserves regardless of how these parameters are set. WPTF's arguments against the justness and reasonableness of DAME with these provisions severed would apply to DAME even if the provisions were not severed. Those arguments are without merit.

WPTF is suggesting the CAISO's procurement of imbalance reserves cannot be just and reasonable without a bespoke calculation for every variable energy resource to estimate its individual contribution to uncertainty and load imbalances. That approach would be more refined than the proposal as filed but would add significant and infeasible level of complexity to the process. The purpose of the imbalance reserves approach is to model future uncertainty. All models will be simplistic relative to the reality that materializes. The proposal as filed to allocate requirements nodally is a reasonable and administrable way of implementing its proposal. Further, the Commission already has approved this same method as just and reasonable for the FRP.⁹⁵ Accordingly, the

⁹⁴ WPTF at 4, 14-17.

⁹⁵ See *Cal. Indep. Sys. Operator Corp.*, 181 FERC ¶ 61,034 (2022).

Commission should find the CAISO's similar proposal in this proceeding is just and reasonable and should reject WPTF's alternative proposal.⁹⁶

WPTF's argument about different treatment from ancillary services is unpersuasive. First, imbalance reserves are not an ancillary service, so the CAISO has no obligation to treat the two the same way. Second, WPTF inaccurately assumes the same concerns it cites are not present with ancillary services. The CAISO has existing deliverability concerns with ancillary services that require monitoring and potential manual responses. The CAISO utilizes the period following the publication of the day-ahead market and the start of the operating day to review ancillary service awards for deliverability and takes appropriate action in the real-time market if it deems the day-ahead awards insufficient to meet its reliability needs. If the CAISO were creating its ancillary service rules from a blank slate, as it is proposing to do in this docket for imbalance reserves, it likely would consider imposing deliverability tests on ancillary services. Indeed, the CAISO intends to explore enhancing its ancillary services rules to do just that in the future. Finally, WPTF's argument on this issue reflects an internal tension in its own comments. On the one hand, WPTF expresses concern that imbalance reserves will not be deliverable under the proposal.⁹⁷ On the other hand, as stated above, WPTF also argues that nodally

⁹⁶ See the discussion of the requirements of FPA section 205 in section III.A.3 of this Answer.

⁹⁷ WPTF at 16.

procured imbalance reserves will harm reliability because they will secure higher deliverability than zonally procured ancillary services.

On the topic of deployment factor severability, the August 22 Filing only identified certain language in new tariff section 31.3.1.6.3.1 as severable.⁹⁸ To make the deployment factor fully severable, the CAISO also should have identified the following additional references in the proposed tariff revisions to the deployment factor. New tariff section 27.4.3.5 contains a statement describing how the shift factor thresholds in the market are adjusted for the deployment scenarios (“For the purposes of applying these thresholds in procuring Imbalance Reserves Awards under Section 31.3.1.6.3, the CAISO considers the product of the shift factor and the Deployment Factor.”). New tariff section 31.3.1.6.4 contains two references to the deployment factor as part of how the CAISO calculates displaced congestion revenue from the deployment scenarios. In addition, tariff appendix A contains a definition of the new term “Deployment Factor.” The CAISO now adds these tariff provisions to its support for deployment factor severability.

6. Setting the Default Availability Bid at \$55/MWh

Two commenters address the proposed market power mitigation for the new market products and its proposed default availability bid of \$55/MWh.⁹⁹ WPTF argues that additional mitigation authority is unnecessary, because the existing market power mitigation mechanisms along with the proposed balancing

⁹⁸ See transmittal letter for August 22 Filing at 24-25.

⁹⁹ See *id.* at 65-68.

area-level market power mechanism under EDAM function as a sufficient mitigation measure for imbalance reserves.¹⁰⁰ PG&E raises arguments in the opposite direction, expressing concern that the \$55/MWh value may be insufficient to mitigate market power for imbalance reserves and reliability capacity, and requesting that the Commission order the CAISO to provide a compliance report within one year of DAME becoming effective that provides detailed information on market power and its mitigation.¹⁰¹

The CAISO strongly disagrees with the suggestion that energy market mitigation will be sufficient to mitigate market power concerns for imbalance reserves. As explained in the August 22 Filing, the interaction between energy prices and imbalance reserves prices necessitate mitigation specifically for imbalance reserves. It is insufficient to rely solely on energy mitigation.¹⁰² If the CAISO adjusts the imbalance reserves bid cap or the demand curve cap, it is critical that these imbalance reserve-specific mitigation measures spring into effect on their own terms.

The CAISO recognizes PG&E's concern that operational experience should inform the suitability of the default availability bid. However, as explained in section III.R.2 of this Answer, the CAISO has committed to robust monitoring and reporting on the new market features and there is no need for the Commission to compel reporting on specific issues in this proceeding.

¹⁰⁰ WPTF at 4, 18-20.

¹⁰¹ PG&E at 17.

¹⁰² Transmittal letter for August 22 Filing at 65.

D. The Proposed Financial Settlement Revisions to Implement DAME Are Just and Reasonable

1. Paying Awards and Assessing Unavailability Charges

PG&E argues that the proposed process will allow unavailable resources to retain payments for imbalance reserve capacity that is not made available to the market as required.¹⁰³ The CAISO disagrees. As explained in the August 22 Filing, the proposal appropriately charges resources commensurate with the harm they cause to the system when unavailable to provide their awarded imbalance services.¹⁰⁴ The CAISO's formulation requires the supplier to buy back its imbalance reserve schedule consistent with the replacement cost. Therefore, the formulation satisfies the principle of cost causation under Commission and court precedent and is just and reasonable.¹⁰⁵ The existing no-pay rules apply to products that are not re-optimized in real-time, so there is no means of basing the rules on the replacement cost the CAISO incurs from non-

¹⁰³ PG&E at 21-22.

¹⁰⁴ See transmittal letter for August 22 Filing at 79-81.

¹⁰⁵ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 165 FERC ¶ 61,116, at P 48 (2018) (“The Commission has said that the principle of cost causation requires that all approved rates reflect to some degree the costs actually caused by the customer who must pay them. The Commission evaluates whether cost allocation is consistent with cost causation by comparing the costs assessed against a party to the burdens imposed or the benefits drawn by that party. In reviewing these decisions, courts have never required a ratemaking agency to allocate costs with exacting precision. Rather, it is enough, given the standard of review under the Administrative Procedure Act, that the cost allocation mechanism not be arbitrary or capricious in light of the burdens imposed or benefits received.”) (Internal quotation marks, brackets, and citations omitted.); *Midcontinent Indep. Sys. Operator, Inc.*, 181 FERC ¶ 61,219, at P 50 (2022) (finding that, in accordance with court and Commission precedent on the principle of cost causation, “cost allocation does not need to be undertaken with exacting precision in order to be roughly commensurate with benefits”); *Sw. Power Pool, Inc.*, 178 FERC ¶ 61,087, at P 30 n.42 (2022) (“Courts have held that the cost causation principle does not require costs to be allocated with exacting precision, but rather requires that costs be allocated in a manner ‘roughly commensurate’ with the benefits received.”).

performance. Here the CAISO is able to tailor the no-pay rules with that consideration in mind and accordingly has done so.

2. Ramp Deviation Settlement to Address Double-Payment Concerns

PG&E, SCE, and SDG&E each express concern about the proposed ramp deviation settlement for imbalance reserves.¹⁰⁶ Their specific comments vary but all three view the proposal as filed to force a “buyback” of imbalance reserves awards for resource that do not receive an FRP award as unfair.¹⁰⁷ PG&E specifically argues the deviation settlement is problematic because the processes described for the proposed day-ahead imbalance reserve requirement methodology are mathematically distinct and different from the process for real-time flexible ramping requirements established in the relevant BPM. PG&E is also is concerned that the forced buyback process in new tariff section 11.25.2.1.1 is inconsistent with existing economic principles for reserves products, such as RUC and ancillary services. SCE and SDG&E both contend that the proposed rules expose suppliers to excessive risk.

The Commission should find the proposal as filed is just and reasonable. The August 22 Filing explained that imbalance settlement is a basic feature of energy markets.¹⁰⁸ It is appropriate that a resource that receives a day-ahead market award for energy but does not receive a real-time market award has to buy back the day-ahead award at the real-time market price. Similarly, an

¹⁰⁶ See transmittal letter for August 22 Filing at 87-90.

¹⁰⁷ PG&E at 18-20; SCE at 10-11; SDG&E at 8.

¹⁰⁸ Transmittal letter for August 22 Filing at 89.

imbalance settlement prevents a resource from being paid twice for the same product. For example, a resource that receives a day-ahead market award for energy and then receives an award in the same amount from the real-time market should not be paid twice for the same energy. The ramp deviation settlement merely applies these existing principles to imbalance reserves and FRP.

The August 22 Filing acknowledged that the imbalance reserves and FRP products are not identical.¹⁰⁹ However, the CAISO disagrees with PG&E that the differences reflect a flaw in the ramp deviation settlement rules. The products may hold some differences but they are similar in relevant ways that justify an imbalance settlement designed to apply only to the ways in which they are similar.

The CAISO also disagrees with the sentiment that the deviation settlement is unfair because a resource has already met its imbalance reserves obligations once it submits real-time market awards, which occurs before the market awards or does not award FRP. The CAISO's purpose in creating the imbalance reserves product is not simply to purchase economic bids to the real-time market. That is merely the mechanism to maximize the likelihood of having the flexible reserves needed to meet load imbalance; the CAISO is procuring a resource attribute of being able to provide flexibility going into the operating time frame. Failure to get a FRP award in real-time means the attributes from the resource awarded imbalance reserves in the day-ahead market no longer are needed.

¹⁰⁹ *Id.*

This is no different than the case when a resource with a day-ahead market energy award does not receive a real-time market energy award.

Commenter concerns about excessive cost exposure are also unrealistic and ignore market dynamics. It is true that the proposed imbalance reserves penalty price is notably lower than the existing FRP penalty price. That alone, however, does not establish suppliers face meaningful risk. A resource with a day-ahead award for imbalance reserves generally would only fail to receive a real-time market award for the FRP when the CAISO market foresees a more limited need for flexible reserves in the real-time market or because the market has a deep pool of available resources to provide the FRP. In either circumstance, the FRP price is likely to be quite low or at zero, notwithstanding its \$247/MWh penalty price. In times of limited need, the supplier would buy back its imbalance reserves award at a small value or even at \$0.

As to PG&E's concern about inconsistency between the deviation settlement for imbalance reserves as compared with the current approach for ancillary services, the CAISO addresses a similar issue in section III.C.5 of this Answer. The CAISO may not have a deviation settlement today for ancillary services, but that does not necessarily mean the existing approach is ideal. The existing lack of deviation settlement for ancillary services is driven by the lack of re-optimization in the real-time market for the current products. The CAISO is exploring the possibility of making changes to address the matter. If it makes such changes, the CAISO likely will apply the same treatment for ancillary services as it proposes for imbalance reserves.

3. Measures to Address Displaced Congestion Revenue

CDWR expresses concern that it may not have sufficient data about the impacts of the new market changes on its CRR position to provide necessary risk certifications. CDWR seeks a commitment through this proceeding that the CAISO will provide the needed information as the implementation process unfolds.¹¹⁰ DC Energy requests assurances that market participants will have sufficient advance notice if the CAISO adjusts parameters through the BPM that are relevant to CRRs or the displaced congestion revenue calculations.¹¹¹

The CAISO has committed to provide the best information it can in the market simulation process to address CDWR's concern. Naturally, data from the market simulation process will not provide perfect information about actual CRR settlements once the new market design is implemented. Regarding DC Energy's request, as discussed in section III.C.4 of this Answer, the PRR process for revising BPMs is a multi-month process that provides notice and opportunity to comment.

E. The DAME Tariff Provisions Are Not Severable from the EDAM Tariff Provisions

Some commenters suggest that the EDAM tariff provisions should be severed from the DAME tariff provisions. For example, Shell Energy claims the CAISO does not adequately explain why DAME may not be severed from EDAM,

¹¹⁰ CDWR at 4-6.

¹¹¹ DC Energy at 4-5.

noting that the CAISO EDAM Benefits Study shows EDAM will provide net benefits to California and the rest of the West even without DAME.¹¹²

As explained in the August 22 Filing, the EDAM design was premised on the changes proposed in the DAME initiative, particularly the introduction of an imbalance reserve product.¹¹³ Stakeholders were informed that DAME would be available at the outset of EDAM, and its key new imbalance reserves and reliability capacity products are reflected in the EDAM tariff revisions.¹¹⁴

The CAISO extensively considered what is required to implement DAME and EDAM from a system and software perspective as part of its internal preparations. The CAISO concluded that without DAME as the foundation, the additional effort and expense to implement EDAM and subsequently implement DAME is unreasonable and would lack the additional benefits of the imbalance reserve product. Comments that suggest implementing EDAM without DAME is a simple matter on which the Commission should override the CAISO's judgement ignore these considerations. As represented in the August 22 Filing, and acknowledged by a large number of commenters, ideally DAME and EDAM should be implemented together.

¹¹² Shell Energy at 1, 6 and attachment A; *see also* *Vistra* at 3, 5.

¹¹³ Transmittal letter for August 22 Filing at 23-27. In addition, as noted therein, within the proposed DAME tariff revisions there are six individual elements that are severable from each other and from the remaining DAME elements, and the same is true as to four individual EDAM tariff revisions.

¹¹⁴ See new tariff section 33.31.1 (including resource sufficiency evaluation provisions that account for imbalance reserves); *see also* Brattle, *Extended Day-Ahead Market Benefit Study*, at slide 24 (Aug. 30, 2023), available at http://www.caiso.com/Documents/EDAM_Forum_Brattle_Slides_2023-08-30.pdf#search=brattle.

WPTF conceptually supports DAME, but believes the imbalance reserves proposal is unjust and unreasonable and states that the *NRG* decision limits the Commission's authority to modify an FPA section 205 filing unless the utility consents. WPTF encourages the CAISO to agree to expand the severability of the imbalance reserves to avoid requiring the Commission to reject the August 22 Filing.¹¹⁵ For the reasons explained in the August 22 Filing and in the Answer above, the proposed imbalance reserves product is just and reasonable, as are the other components of the August 22 Filing. As the filing utility, the CAISO can elect to file the DAME and EDAM proposals as a package and has elected to do so for the reasons provided. The Commission should accept the August 22 Filing on that basis. The CAISO did not propose that EDAM could be severable from DAME and does not consent to sever DAME from EDAM.¹¹⁶

Vistra suggests that the CAISO's combined filing threatens to undermine reliability and create new market distortions by extending "widely acknowledged flaws" in the CAISO's existing market design to a broader regional day-ahead market footprint.¹¹⁷ Vistra fails to explain how the existing CAISO market design is flawed and certainly has not met any obligation to demonstrate it is unjust and unreasonable. Such unsupported claims cannot be a basis for rejecting the CAISO's filing.

¹¹⁵ WPTF at 2-3 (citing *NRG Power Mktg., LLC v. FERC*, 863 F.3d 108 (D.C. Cir. 2017) (*NRG*)).

¹¹⁶ See, e.g., *Reg'l Transmission Orgs.*, Order No. 2000, 89 FERC ¶ 61,285, at 31,108 (1999) ("To provide truly independent and nondiscriminatory transmission service, the RTO must administer its own tariff and have the independent authority to file tariff changes.").

¹¹⁷ Vistra at 3, 5.

EPSA recommends that the Commission either (1) accept the filing for both the DAME and EDAM proposals in order to set them for hearing, or (2) reject the filing and direct the CAISO to re-file the two proposals separately. EPSA believes that EDAM can move forward without DAME.¹¹⁸ EPSA has no legal basis for the actions it requests the Commission to take. Again, the CAISO is the filing utility and has authority to propose DAME and EDAM as a single package. The Commission does not have the authority in a FPA section 205 proceeding to second-guess that; doing otherwise would violate *NRG*. Moreover, as described in section I of this Answer, commenters expressed widespread support for implementation of DAME and EDAM. The CAISO recognizes that there are uncertainties in the design and remains committed to working collaboratively and transparently with all interested parties to address them, but now is the time to move forward and begin delivery of value to electricity consumers by unlocking the benefits of a day-ahead market. Moreover, as explained below,¹¹⁹ the Commission should not establish hearing procedures.

If the Commission does not approve the EDAM tariff amendment or the CAISO does not implement EDAM, DMM recommends the CAISO consider substantial revisions to a DAME policy that would only apply to the CAISO balancing area.¹²⁰ The CAISO acknowledges that if DAME had been developed solely to meet the needs of the CAISO balancing area, some elements might have been different. Considered in isolation, DAME nevertheless might be

¹¹⁸ EPSA at 2-3, 7-8.

¹¹⁹ See section III.R.1 of this Answer.

¹²⁰ DMM at 3.

appropriate as a standalone policy for the CAISO balancing area, but given today's world with area-wide optimization and visibility critical to collective reliability, it is less clear why it would make sense to proceed with DAME in isolation. That said, if there were reason to believe the DAME changes would be implemented for a substantial period without EDAM, the CAISO would explore incremental changes. The CAISO's openness to considering the possibility of such changes, however, does not in any way indicate the proposal before the Commission now is unjust and unreasonable.

F. The Commission Should Approve the EDAM Tariff Revisions As a Necessary First Step to Allow Customers to Benefit From the Extended Day-Ahead Market

There is widespread support for EDAM.¹²¹ For example, PacifiCorp states that EDAM represents a logical next step for the non-CAISO West to build on the success of the WEIM, noting the extensive benefits of the WEIM since it was implemented in 2014.¹²² They also comment that EDAM is anticipated to provide further benefits as this next step takes us towards broader regional integration without the obstacles to forming a full RTO in the West.¹²³

Commenters note that, while details remain to be worked out under the transmission service provider tariffs to be filed by would-be EDAM transmission owners, the proposal as filed contains ample detail for the Commission to find that the overall market design is just and reasonable. Once the Commission

¹²¹ See, e.g., ACP at 3; AEU at 2, 3-6; BANC at 3-5; CEBA at 3-5; EPSA at 4-5; Google at 1-2, 7-9; NV Energy at 1-2; PacifiCorp at 2-5; PGE at 3-4; SMUD at 1-2.

¹²² PacifiCorp at 2-3.

¹²³ *Id.* at 3-5.

accepts the CAISO tariff, this will allow such interested parties to pursue additional steps, including: would-be EDAM participants considering their own OATT changes and presenting them to the Commission for acceptance; software enhancements to transition to EDAM participation; and potential other regulatory approvals prior to implementation.¹²⁴

ACP suggests that non-jurisdictional EDAM participants that do not have a reciprocity tariff on file with the Commission may be a significant portion of the ultimate EDAM footprint. ACP claims it would have been preferable for EDAM transmission service provider tariff revisions to be standardized.¹²⁵ It is not necessary for the Commission to concurrently review tariff revisions of potential EDAM transmission service providers, whether they are jurisdictional or not, to find that the proposal as filed is just and reasonable. As with the evolution of the WEIM, the CAISO would expect EDAM transmission service providers to generally follow a similar path as others and to consider deviations as appropriate to account for their unique circumstances.¹²⁶ Further, as with the early development of the WEIM, the CAISO will engage with prospective EDAM balancing authorities to consider changes to their tariffs that support EDAM.¹²⁷

¹²⁴ See, e.g., PacifiCorp at 5-7; BANC at 3.

¹²⁵ ACP at 7-8.

¹²⁶ See, e.g., APS OATT, attachment Q; Avista Corp. OATT, attachment P; Idaho Power OATT, attachment O; Los Angeles Department of Water and Power OATT, attachment O; NV Energy OATT, attachment P; SRP OATT, attachment S; and Tacoma Power OATT, attachment O (each adopting OATT changes substantially similar to each other with some adjustment to account for utility-specific differences).

¹²⁷ See, e.g., CAISO motion for leave to intervene and comments, Docket No. ER15-1196-000 (Apr. 6, 2015) (supporting NV Energy OATT changes as consistent with the CAISO tariff WEIM requirements).

ACP also asks the Commission to direct the CAISO to commit to reviewing certain elements of EDAM in a “year-one EDAM enhancements” initiative that will look at potential improvements to the EDAM model following initial operation of the market.¹²⁸ Such a directive is neither necessary nor appropriate. First, as discussed in section III.S of this Answer, any potential future design changes and tariff enhancements are beyond the scope of this proceeding. More importantly, the CAISO has an established process for consideration of market design enhancements, and a solid track record of collaboration and coordination on initiatives to support associated tariff and system changes. Indeed, the comments submitted in this proceeding include extensive support of the EDAM stakeholder effort. The CAISO fully expects that EDAM will represent an area of ongoing attention, particularly in the earlier years of operation, and remains committed to ensuring both a successful launch and ongoing improvement. In all prior major CAISO market design initiatives, the CAISO has followed through on its commitments to consider future refinements and enhancements. For example, when the Commission approved the implementation of nodal markets as part of the CAISO’s market design and technology upgrade, the Commission noted the CAISO’s commitment to develop “additional refinements, for the benefit of California and the rest of the West.”¹²⁹ As many commenters have suggested and as committed to by the CAISO in this Answer, the Commission should accept the proposed changes so that EDAM

¹²⁸ ACP at 4-8.

¹²⁹ *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at P 11 (2006).

can be implemented and improved. Further, as others have explained, the question before the Commission is whether the proposal is just and reasonable as filed, not whether standardization or enhancements should be mandated before EDAM has even been implemented.¹³⁰

Shell Energy argues that the EDAM proposal leaves many critical components of EDAM to interpretation and implementation by individual transmission service providers and suggests it cannot fully comment on the justness and reasonableness of EDAM until Shell Energy knows how CAISO and participating transmission service providers (including transmission service providers that are not Commission-jurisdictional) will implement EDAM-related transactions.¹³¹ It is not necessary for the Commission to first see all of the potential OATT changes EDAM transmission service providers may propose to comply with the CAISO tariff in order to find that the proposed EDAM tariff provisions, including its transmission availability framework, are just and reasonable. Implementation of EDAM is predicated upon a balancing authority's participation in WEIM, its existing tariff and contractual relationship with the CAISO, and consideration and adoption of OATT changes to support EDAM participation. Interested stakeholders have had a full opportunity to consider the CAISO tariff framework to implement EDAM and, while it is true that implementation of EDAM will require further changes to EDAM transmission service provider tariffs not specifically addressed by the CAISO tariff, the

¹³⁰ See, e.g., PacifiCorp at 6-7; BANC at 3-4.

¹³¹ Shell Energy at 7-8.

underlying contractual and tariff arrangements associated with WEIM participation support acceptance of the EDAM framework without concurrent consideration or standardization of all transmission service provider tariff changes.¹³² As was the case with WEIM, where individual transmission service providers have developed OATT revisions as they elected to participate in the WEIM, there will be ample opportunity for the Commission to consider EDAM participation issues through tariff revisions to be filed for individual transmission service providers.

Tri-State argues that generators and transmission providers with assets or firm third-party capacity within those volunteering balancing authorities should have an opportunity to “carve out” themselves from EDAM.¹³³ There is no basis for the Commission to mandate a “carve-out” for loads or resources within a balancing area participating in EDAM. As explained in the August 22 Filing, all loads and resources must be accounted for in the market, either through an economic bid or a self-schedule, in order for customers to realize the benefits of the market. Otherwise, the balancing area demand forecast would not align with all of the supply and demand the balancing authority is responsible for. The

¹³² The CAISO notes that the Commission did issue an order on the first set of proposed WEIM-related revisions to an OATT at the same time the Commission accepted CAISO tariff changes to implement the WEIM. *PacifiCorp*, 147 FERC ¶ 61,227 (2014). Subsequent WEIM OATT changes were approved later. In this case, the CAISO believes it is appropriate for the Commission to first accept the EDAM framework as reflected in the August 22 Filing before consideration of the first OATT changes by individual transmission service providers under that framework. The need for initial acceptance of the EDAM framework is particularly important given the need for transmission service providers to determine any EDAM-related refinements to their OATTs to best account for transmission service on their systems.

¹³³ Tri-State at 5-6.

Commission has not mandated such carve-outs for load and resources in other organized wholesale markets administered by ISOs and RTOs.

Third-party transmission providers should coordinate with the EDAM balancing authority participant to ensure appropriate modeling of their transmission system within the host balancing area. In most cases, it is anticipated the CAISO's transmission ownership rights functionality would be sufficient to account for third-party transmission ownership rights within a balancing area participating in EDAM. If this treatment is insufficient, the CAISO would expect to work through issues concerning EDAM transmission ownership rights through the implementation process and continued coordination with the host balancing authority. In any event, the CAISO would expect that third-party transmission facilities would be included in the full network model and any understanding between the host balancing area and the third-party transmission service provider would need to be within the EDAM transmission availability framework of the CAISO tariff.

G. The EDAM Tariff Provisions Ensuring Sufficient Transmission Is Available for the Day-Ahead Market Are Just and Reasonable

1. The CAISO's Approach to Transmission Availability Respects Transmission Rights Under the *Pro Forma* OATT

The CAISO's transmission availability provisions are carefully designed to strike an appropriate balance between respecting transmission rights under legacy contracts and the *pro forma* OATT, while providing sufficient transmission to the market to benefit customers across the West.

Numerous commenters who administer tariffs based on the Commission's *pro forma* OATT support the proposed transmission availability framework and note that the proposed provisions for accommodating intra-day schedule changes are at least as good as under the *pro forma* OATT.¹³⁴

Notwithstanding this support, the CAISO received two broad types of comments on transmission availability. Utilities in California raised questions and concerns about the extent to which modifications the CAISO adopted in the stakeholder process to provide appropriate accounting for customers with firm rights under the *pro forma* OATT could impact existing entities in the CAISO balancing area. Other commenters, while acknowledging the adjustments made by the CAISO based on stakeholder input, raised questions or concerns about how firm OATT rights will be treated under EDAM. The August 22 Filing, along with this Answer, demonstrate how the CAISO has made an appropriate balance and submitted a just and reasonable proposal. As such, the Commission should accept the EDAM transmission availability framework without exception or modification.

a. EDAM Properly Accounts for Transmission Service Provider Service on Different Transmission Systems

Six Cities seek confirmation that the exercise of OATT transmission rights in the real-time market, and the discretion afforded to the EDAM transmission service provider to identify the rights that should be afforded a scheduling priority

¹³⁴ See BANC at 9-11; PacifiCorp at 11-15; PGE at 4-5.

consistent with new tariff section 33.18.2.2.3, do not impact or afford a priority on other EDAM transmission provider systems, specifically including the CAISO controlled grid.¹³⁵ Six Cities also seek clarification that the EDAM framework does not permit EDAM transmission service providers, through scheduling priorities in their OATTs, to alter scheduling priorities applicable to transactions wheeling through or exporting from the CAISO.¹³⁶

New tariff section 33.18.2.2.3 affords discretion to EDAM transmission providers, consistent with their OATTs and their roles as transmission providers and balancing authorities, to inform the CAISO of the priority to afford particular exercise of firm/conditional firm OATT rights in the real-time market across its own system. The CAISO confirms that this provision does not confer transmission rights on other transmission systems, which naturally includes a determination of relative priority. Transmission service on the CAISO controlled grid is provided under new tariff section 33.18.4, which specifically references section 23 and Appendix L with respect to the provisions of transmission service on CAISO interties.¹³⁷ This separation within section 33.18 and the additional cross-reference intentionally distinguish transmission service on the CAISO controlled grid from transmission service on an EDAM transmission service provider system under that tariff. The CAISO believes this structural distinction

¹³⁵ Six Cities at 7-8.

¹³⁶ *Id.* at 9.

¹³⁷ On July 28, 2023, the CAISO submitted tariff revisions in Docket No. ER23-2510-000 to implement a durable framework for external load serving entities and suppliers serving them to obtain in advance, on a monthly and daily basis, wheeling through self-schedule priorities equal to the scheduling priority of CAISO demand. A Commission order on the tariff revisions is pending.

should be sufficient to clarify the separation of transmission service on the CAISO controlled grid from transmission service on EDAM balancing area transmission systems.

With respect to EDAM transmission service provider systems, a transmission customer may exercise its firm OATT rights across the system to an adjacent intertie. The exercise of these rights will be afforded a priority across an EDAM transmission service provider system consistent with its OATT without impacting the priority afforded the exercise of the OATT rights on other EDAM transmission systems. To the extent the transmission customer wanted to exercise its OATT rights across multiple EDAM transmission systems, its real-time market self-schedule would need to exercise the OATT rights across all of those systems in order to receive the available market scheduling priority across the full path. To the extent those rights are not exercised across the full path, the schedule would not be afforded the priority commensurate with exercise of the OATT rights as supported by the CAISO tariff.

Six Cities also request clarification whether new tariff section 33.18.2.2.3 is intended to support Western Resource Adequacy Program (WRAP) transactions specifically.¹³⁸ The CAISO clarifies that tariff section 33.18.2.2.3 is intended to recognize the deference afforded to any EDAM transmission service provider administering its own tariff and the terms and conditions of associated transmission contracts, not specifically to support WRAP participants. EDAM transmission service providers are in the best position to administer the

¹³⁸ Six Cities at 10-11.

transmission rights on their systems and make determinations about the implementation of tariff section 33.18.2.2.3 according to their respective OATTs. Again, this section is not intended to imply that it can be used by only a subset of customers or otherwise limit application to WRAP transactions or other uses of transmission rights through the real-time market; it is intended to respect the exercise of firm transmission rights in the CAISO's market. Ultimately, the EDAM transmission service provider will need to identify within its tariff the nature of transmission service rights on its system and if, when, and how it would request application of this provision of the CAISO tariff. Additional details about the CAISO's administration of this provision under its tariff are provided in section III.G.2 of this Answer.

b. The EDAM Transmission Availability Framework Does Not Undermine or Exacerbate Existing Conditions on the Grid

During the EDAM stakeholder process, Six Cities expressed concerns regarding the ability and willingness of rights holders to make transmission available for the optimization, or whether there are opportunities for rights holders to inappropriately withhold transmission or engage in strategic decision-making about how to deploy their rights within EDAM. They questioned whether the CAISO's tagging requirements in EDAM and the WEIM may exacerbate these concerns about the potential exercise of market power, because these tagging requirements effectively nullify the OATT-based requirement for the automatic

release of unscheduled transmission, which operates as a control on the exercise of market power.¹³⁹

Concerns that there are paths across the West, particularly interties between California and the Northwest, with limited availability of transmission capability or with high concentration of transmission rights is widely understood. The CAISO appreciates this reality as it reflects the limited available transmission capability across different paths or systems in the West. However, it is less clear whether there exists potential for the exercise of transmission market power and, if so, what the impacts may be in the market or, more specifically, whether in such instances the ability to tag certain transactions consistent with CAISO tariff requirements may be impacted. Despite this lack of clarity, the CAISO offers an explanation of how it takes into account the potential for such market power. The referenced tagging requirement is intended, in part, to provide confidence that the scheduled transactions supporting resource sufficiency will be delivered after the day-ahead market runs. As explained in the August 22 Filing, this is comparable to tagging practices today where import transaction e-tags, including a transmission profile, are submitted soon after the publication of day-ahead market results. In fact, this practice was the primary reason these proposed tagging deadlines were identified as appropriate. The tagging timelines for the resource sufficiency pooling requirements also recognize the varied timelines in

¹³⁹ *Id.* at 13-14.

the West for further release of transmission capability, above and beyond what may be available.¹⁴⁰

The potential for transmission market power on certain constrained paths may exist today absent EDAM due to limited available transmission capability and the holding of transmission rights by a few entities, and EDAM does not introduce or exacerbate that risk. The applicable transmission providers, administering transmission service under their OATTs, ultimately have the responsibility to identify and resolve issues associated with availability and reservation of transmission service on their transmission systems. The CAISO will work with EDAM participants and monitor how transmission is being made available and tagged to support the EDAM transactions. Based on operational experience and information gathered through monitoring, the CAISO will engage with stakeholders and evaluate any issues that may come up. This consideration, as also requested by DMM,¹⁴¹ will be a priority as EDAM gets underway and expands over time.

CMUA asserts the CAISO market works on a flow-based model with market awards honored on an equal basis. CMUA claims the EDAM design should ensure that it does not erode principles and operation of the current CAISO market.¹⁴² The proposal to afford deference to the transmission provider to inform the CAISO of the market scheduling priority for the exercise of firm OATT rights in the real-time market will not undermine performance of the

¹⁴⁰ See new tariff section 33.31.6.

¹⁴¹ See DMM at 23-24.

¹⁴² CMUA at 5.

CAISO markets and the operation of the CAISO balancing area in the context of those markets. This is true because transmission service within the CAISO balancing area, although provided separately, is accounted for consistently in the market optimization under the CAISO tariff, similar to how accounting for transmission in the WEIM functions today. Adverse impacts on the CAISO balancing area are not expected for the reasons provided above in response to comments of Six Cities.

ACP is concerned that certain provisions in the proposed EDAM tariff may incentivize generators that own transmission rights within EDAM that are used to deliver output of one or more generator(s) to a remote off-taker to self-schedule their output in EDAM more often than would be necessary under a different set of rules. ACP claims this potential over-reliance on self-schedules may reduce the benefits that EDAM can offer by “clogging up” transmission availability with transactions that may not actually flow and by reducing the amount of generation that is economically offered into the market.¹⁴³

These concerns do not undercut the justness and reasonableness of the CAISO’s EDAM proposal. The market optimization determines flow based on all offers in the market, including self-schedules, and mechanisms are in place to address the use of self-schedules in the day-ahead market, including buy-back options between day-ahead and real-time. Moreover, any congestion potentially caused by self-schedules must be accounted for in the market and, similar to the CAISO’s experience at the outset of the new nodal market in 2009, self-

¹⁴³ ACP at 8-9.

scheduling practices may be increased at the outset while market participants gain experience. This should not be a cause for concern. The CAISO anticipates, similar to its experience following implementation of the market redesign, that participants would increase their participation in the market through economic bidding over time.

Similarly, there is no need for the Commission to act on ACP's request that the Commission direct the CAISO to evaluate potential enhancements to the transmission availability approaches in a "year-one EDAM enhancements" stakeholder initiative.¹⁴⁴ Based on operational experience, the CAISO is committed to ongoing consideration of proposals to address significant issues that may arise, and to develop appropriate enhancements for future consideration by the Commission. This approach is consistent with the evolution of the WEIM, with numerous enhancements having been presented and accepted by the Commission over the years. As explained in section III.S of this Answer, any such specific future design change and potential enhancement are beyond the scope of this proceeding.

ACP contends that, under new tariff section 33.18.2.2, when read in conjunction with new tariff section 33.18.3, some generators in EDAM may be essentially trapped into using self-schedules in EDAM, even if this is not the method they would choose if provided more viable options for the use of their transmission and settlement of congestion/transfer revenues directly with the

¹⁴⁴ See *id.* at 8-9.

market operator.¹⁴⁵ The CAISO disagrees with any implication that self-schedules are inherently bad or undesirable. Self-schedules offer one viable approach to submitting supply resources into the CAISO's markets. It may be that, similar to the CAISO nodal markets at start-up, more self-scheduling will be observed during the initial implementation of EDAM until market participants begin to gain operational experience and recognize the benefits of economic bids and the associated potential for price differences. The fact that some market participants may continue to need to rely on self-schedules in EDAM even after experience will not undermine the overall reasonableness of the markets.

NV Energy questions whether the CAISO's filing creates unnecessary confusion regarding the ability of OATT customers to continue to make intra-day changes while preserving the firmness of their reserved transmission capacity, noting that the August 22 Filing references the phrase "if practicable" many times. NV Energy states that any insinuation that there are two classes of firm OATT rights based on instructions from transmission service providers – one worthy of hold harmless protection and one that should be accommodated only "if practicable" – is incorrect. Nevertheless, NV Energy agrees new tariff section 33.18.2.2.3 can be made to work if there is a common understanding among the CAISO and participating EDAM Entities who operate under the *pro forma* OATT.¹⁴⁶

¹⁴⁵ *Id.* at 10-11.

¹⁴⁶ NV Energy at 9-10.

As an initial matter, the CAISO acknowledges it did reference the language in section 13.8 of the *pro forma* OATT which provides “Schedules submitted after 10:00 a.m. will be accommodated, if practicable.” Four uses of this phrase in the August 22 Filing were either quotes of the *pro forma* OATT or Commission orders interpreting section 13.8. The CAISO believes this provision is relevant to the consideration of how firm OATT rights not scheduled by 10:00 a.m. day-ahead will be treated. The CAISO further seeks to clarify any potential confusion in this Answer. The CAISO agrees that this proposal does not create a distinction between classes of firm rights holders, and there was no intention of doing so. However, the CAISO would anticipate that EDAM transmission service providers would amend their tariffs, not to provide different classes of firm transmission rights, but to clarify the process by which firm transmission rights scheduled after the 10:00 a.m. deadline will be accommodated under EDAM. The CAISO tariff describes how firm OATT rights can be exercised in the day-ahead market and then, separately, if those same rights are not exercised how they may be exercised in the real-time market.¹⁴⁷ New tariff section 33.18.2.2.3 defers to EDAM transmission service providers to identify and inform the CAISO in advance the priority it would otherwise expect to afford exercises of firm OATT rights on its system. In this way, the real-time market offers a more efficient mechanism for the administration of firm OATT rights that otherwise would need to be managed by the EDAM transmission service provider in real-time should an infeasibility result from the market optimization. The CAISO is not proposing that

¹⁴⁷ See section III.G.2 of this Answer.

EDAM transmission service providers would need to establish a new class of firm OATT rights.

Bonneville claims that several of the CAISO's approaches to the day-ahead market could disincentivize load serving entities from using the most recent intra-day load forecasts and updating load and generation schedules prior to the real-time market. Referencing new tariff section 33.18.2.2.3, Bonneville believes that special notification should not be required for a transmission customer to have the same priority firm transmission rights provided today under an OATT.¹⁴⁸ As discussed in the August 22 Filing, the CAISO has developed a number of provisions consistent with section 13.8 of the *pro forma* OATT to accommodate intra-day schedule changes by firm OATT rights holders in accordance with the tariffs of EDAM transmission service providers. The CAISO believes these provisions will address Bonneville's concerns. In addition, the EDAM proposal does not create a distinction between classes of firm rights holders. To the extent Bonneville is essentially asking that all OATT transmission customers with firm rights automatically receive a higher priority than cleared day-ahead schedules, the CAISO believes such a result cannot be justified. As explained in the CAISO's filing, this is not required under the *pro forma* OATT. The proposed transmission availability framework strikes the appropriate balance by distinguishing between firm rights used to support day-ahead and real-time uses.

¹⁴⁸ Bonneville at 13.

Powerex highlights certain principles in a 2019 letter from Powerex and others to the CAISO and WEIM Governing Body and claims that the CAISO has departed from several of these principles.¹⁴⁹ The CAISO notes that these principles guided the development of EDAM through an extensive stakeholder process where the design was refined based on additional feedback by a range of interested parties over the past four years. Powerex appears alone in its view that the EDAM design and associated governance departs materially from the guiding principles. The CAISO believes that the original principles are absolutely reflected in the design and joint governance framework. In any event, the exercise of measuring the EDAM design against the underlying principles is not an exercise for the Commission; this is a matter between the CAISO and its stakeholders. The question before the Commission is whether the proposed tariff revisions are just and reasonable, and on this question, the CAISO has provided complete explanations in the August 22 Filing and this Answer.

c. The EDAM Transmission Availability Framework Appropriately Accounts for and Respects OATT Rights

Powerex argues that language in new tariff sections 33.18.2.2.3 and 33.18.3.1 appears to propose an unprecedented departure from the cornerstone principle that “unused firm is only sold as non-firm,” claiming the EDAM proposal will effectively resell unused firm as firm each day beginning at 10:00 a.m.¹⁵⁰ The proposal as filed does not diminish existing firm OATT rights administered by

¹⁴⁹ Powerex at 13-15.

¹⁵⁰ *Id.* at 9-11.

EDAM transmission service providers. In fact, EDAM provides equivalent and additional mechanisms for firm rights holders to exercise their rights in the day-ahead market or real-time market, or to make them available in exchange for transfer revenue should they not be needed by the rights holder.¹⁵¹

The CAISO's day-ahead market design provides a wide range of tools to accommodate intra-day schedule changes using firm OATT rights. For all intra-day self-schedules associated with firm OATT rights submitted through the real-time market, the market will redispatch the system through the real-time market to accommodate both the transfer optimized in the day-ahead market and the transmission customer's self-schedule submitted after the close of the day-ahead market. In the rare case where the market cannot accommodate both transactions through redispatch, the market will first inform the transmission service provider of the infeasibility and afford the transfer equal priority with demand in the balancing area if resolution through all available means is not possible within the market timelines. As explained the August 22 Filing, deference to the balancing authority to resolve infeasibilities in real-time based on information available through the real-time market is consistent with the practice today in the WEIM. EDAM builds on this deference to the balancing authority and provides additional mechanisms to maintain confidence in transfers, maximize transmission available to the day-ahead market, and support reliable operation of the participating balancing areas.

¹⁵¹ See transmittal letter for August 22 Filing at 132-34.

EDAM transmission service providers also have the ability, under the filed EDAM provisions of the CAISO tariff and in accordance with their own OATTs, to issue instructions to the market operator for intra-day self-schedules associated with firm OATT transmission service. These instructions will recognize the associated market scheduling priority when submitted in accordance with instructions by that EDAM transmission service provider. The procedures and timelines associated with submission of these intra-day self-schedules and accounting in the real-time market are described in response to WPP's request for clarification in section III.G.2 of this Answer.

Finally, the EDAM design provides for the physical "carve-out" of certain transmission rights across particular frequently scheduled paths where the applicable EDAM transmission service provider determines such carve-outs are necessary in accordance with its tariff. Exercising this carve-out option would remove physical transmission capability from the day-ahead market and preserve it for the exercise of rights in the real-time market, reducing the potential need for redispatch and risk of market infeasibilities. However, as explained in the August 22 Filing and section III.G.2 of this Answer, the carve-out option is sub-optimal and use of the market scheduling priority mechanism is preferable.

Powerex believes that the approach proposed by the CAISO in the days prior to the submittal of the August 22 Filing could largely address concerns about the scheduling of firm rights and be workable, but nonetheless suggests that certain language in new tariff sections 33.18.2.2.3 and 33.18.3.1 should be

changed or removed.¹⁵² The CAISO disagrees with Powerex's proposal to change sections 33.18.2.2.3 and 33.18.3.1. Powerex agrees with the concepts in those tariff provisions but suggests modifications that would undermine confidence in the extension of the existing CAISO day-ahead markets to other participating regions. As explained in the August 22 Filing, it is important to maintain confidence in transfers established through the market optimization with appropriate accounting for firm OATT transmission rights as these provisions would enable. The application of these provisions will be the subject of the EDAM transmission service provider OATT, while the CAISO tariff provides for how the real-time market would account for the firm transmission rights and maintain confidence in transfers between balancing areas. Powerex's suggestion would undermine this key principle that guided the discussions and led to the delicate balance between respecting existing transmission rights, maximizing the transmission available to the market, and maintaining confidence in transfers. Powerex essentially asks for, through the removal of language in these provisions, an approach that would ignore the operation of a day-ahead market that appropriately accounts for firm OATT transmission rights within a multi-balancing area day-ahead market in a just and reasonable manner.

Powerex requests that the CAISO confirm in this docket that it will support entities communicating to the respective transmission service provider by T-57 the *range* of intended deliveries, with the final delivery quantities or each interval to be communicated subsequently, consistent with currently applicable

¹⁵² Powerex at 10-11.

scheduling deadlines – and make tariff amendments as needed to support such practice.¹⁵³ The CAISO does not agree that further tariff changes are required to address Powerex’s request for clarification. The final deadline for the hour-ahead scheduling process in the CAISO’s market is T-75, while T-40 is the deadline for the real-time market where submissions must be made, including WEIM base schedules, e-tags, and other critical information required for the real-time market. In any case, the opportunity for schedule changes by an EDAM balancing area remains until the final e-tag deadline at T-20. As explained in response to WPP’s request for clarification in section III.G.2 of this Answer, the CAISO will accept schedule change submissions from an EDAM balancing authority associated with OATT transmission rights throughout the real-time market and all the way through until T-20, similar to the CAISO’s administration of schedule changes associated with legacy contracts and the WEIM today. Any interim or additional timelines would be the subject of the EDAM transmission service provider tariff.

It is also worth noting that each EDAM transmission service provider will need to establish an appropriate deadline for the communication from the EDAM transmission service provider, and the CAISO confirms that it will support communication of schedule changes from the EDAM transmission service provider as explained in the August 22 Filing and this Answer. For example, a T-57 deadline was accepted by the Commission as an amendment to the transmission tariffs of WEIM participating balancing areas so they would be able

¹⁵³ *Id.* at 12-13.

to account for supply and pass the WEIM resource sufficiency evaluation (RSE).¹⁵⁴ The CAISO would anticipate EDAM transmission service providers may develop appropriate timelines to support their administration of these transmission customer rights consistent with the CAISO tariff.

The CAISO also does not agree with Powerex's suggestion it is necessary to allow a range of potential transactions in intra-day schedule changes. The registered contract reference number and its association with an EDAM transfer system resource will support the exercise of firm transmission rights. Each transmission customer may submit a self-schedule in the day-ahead market that effectively reserves its OATT rights. After the close of the day-ahead market, submitted self-schedules will be accepted and accounted for in the real-time market as explained above. This opportunity to submit intra-day schedule changes and the associated accounting in the real-time market is an equivalent mechanism. Effectively, a firm OATT rights holder in coordination with its EDAM transmission service provider can exercise, release, or reserve its rights within the EDAM transmission availability framework consistent with the terms of the underlying OATT rights.

DMM states that new tariff section 33.7.5 seems to accurately describe the policy under the EDAM Final Proposal for how an EDAM balancing area's operators should prioritize between EDAM transfers and demand if the balancing area assigned the power balance violation by the real-time software actually has

¹⁵⁴ *Nev. Power Co.*, 151 FERC ¶ 61,131, at PP 161-64 (2015) (accepting a scheduling timeline change to T-57 as consistent with the CAISO tariff).

to curtail either load or EDAM transfers. However, DMM requests certain clarifications.¹⁵⁵ As explained in the August 22 Filing,¹⁵⁶ the CAISO intends to follow the mathematical formulation included in the Final Proposal to establish conditions when the power balance constraint within a balancing area will be relaxed to support equal priority between day-ahead transfers and demand. In essence, the real-time market will treat EDAM transfers as fixed at a higher penalty than power balance constraint relaxation. If the real-time market cannot find a feasible solution, it will trigger a power balance constraint relaxation, which will require *ex post* management by grid operators using automated and manual tools to administer the necessary curtailments. Further details concerning the implementation of this formulation will be included in the business requirements specification. The CAISO, consistent with past practices, will share the business requirements documentation with DMM and will publish and update an external version for stakeholder review.¹⁵⁷

DMM highlights the proposal that, for a specific resource within a source EDAM balancing area to count towards meeting the EDAM resource sufficiency evaluation requirement of a sink EDAM balancing area, the resource owner has to have procured firm transmission between the balancing areas before the start of the day's EDAM market run, noting this can contribute to EDAM reliability. To

¹⁵⁵ DMM at 19-20, 38. The EDAM Final Proposal is provided in attachment E to the August 22 Filing.

¹⁵⁶ Transmittal letter for August 22 Filing at 129 n.238.

¹⁵⁷ See EDAM Business Requirements Specification, version 1, available at <http://www.aiso.com/Documents/BusinessRequirementsSpecification-ExtendedDay-AheadMarket.pdf#search=EDAM%20external%20business%20requirements%20specification>.

address concerns that this can create the potential for transmission rights holders to exercise market power in the market for supply to meet the EDAM resource sufficiency evaluation requirements, DMM recommends that the CAISO prioritize assessing the extent to which this market power can exist on specific transmission paths, and develop EDAM market design enhancements to mitigate this market power where it has the potential to be exercised.¹⁵⁸ The CAISO will evaluate the prioritization of EDAM-related enhancements, including the concern noted by DMM, as further described in section III.G.1.d of this Answer. Also, as noted above in response to Six Cities' comments, the risk of transmission market power is not introduced by EDAM but is a potential concern that exists today due to limited firm transmission capacity on certain paths and inerties. Through the implementation of EDAM, the CAISO will enable use of existing rights and unsold available transfer capability to support transfers between balancing areas, and will monitor for impacts on the market. The CAISO will ultimately, in coordination with EDAM transmission service providers, gather information necessary to determine what if any action may be warranted to address these concerns. Actions may include market design changes, enhanced monitoring or reporting, or other appropriate measures. For the avoidance of doubt, the CAISO confirms its commitment to identification and resolution of identified transmission market power concerns.

¹⁵⁸ DMM at 21-22, 24.

d. The CAISO Has Committed to Reporting on Performance, Including the EDAM Transmission Availability Framework

In section III.R.2 of this Answer, the CAISO has expressed its commitment to monitoring and reporting on market performance. There is no need for the Commission to mandate the additional reporting requirements related to transmission availability proposed by a number of commenters. For example, Google supports the EDAM proposal, including the transmission availability provisions, but recommends that the CAISO file an annual report detailing how the transmission scheduling provisions of EDAM have worked in practice, including any instances of infeasibility, and what actions were taken to resolve the infeasibility.¹⁵⁹ Similarly, SCE and SDG&E do not oppose the provisions accommodating scheduling priorities for firm OATT rights, but request monitoring and reporting to address potential unanticipated impacts of these provisions or potential cost shifts.¹⁶⁰

As detailed in section III.R.2 of this Answer, the CAISO is engaged in extensive and ongoing reporting of market performance published for all stakeholders to consider. The CAISO fully expects that, as an extension of the day-ahead market, EDAM will be captured within existing or additional reports, including elements unique to EDAM as suggested in submitted comments. For example, the CAISO agrees it is reasonable to monitor and report on the use of transmission and the associated availability and scheduling issues. It is not

¹⁵⁹ Google at 1, 10.

¹⁶⁰ SCE at 3, 10; SDG&E at 7.

necessary for the Commission to impose additional reporting obligations with respect to the matters requested by commenters.

Further, the CAISO engages regionally in a variety of forums to disseminate the information included in its reports. The Regional Issues Forums discuss WEIM issues and any other ongoing stakeholder initiative, and are expected to expand to include EDAM;¹⁶¹ the Stakeholder Initiative Forums discuss ongoing stakeholder initiatives;¹⁶² the Release User Group discussions consider issues related to the software changes;¹⁶³ and the Technical User Group discussions evaluate solutions for technology- and process-based problems.¹⁶⁴ The CAISO will leverage these forums to engage on concerns as expressed by DMM as its ongoing monitoring takes place and information becomes available on the use of transmission on the transmission systems included in the EDAM area. Indeed, the CAISO will coordinate with interested participants and either introduce an EDAM-specific forum, particularly as we launch the first year, or obtain input on how to include EDAM within existing forums, so that the operation and performance of EDAM receives the attention it deserves within the region.

¹⁶¹ See <https://www.westerneim.com/Pages/Governance/RegionalIssuesForum.aspx>.

¹⁶² See <https://stakeholdercenter.caiso.com/>.

¹⁶³ See <http://www.caiso.com/informed/Pages/MeetingsEvents/UserGroupsRecurringMeetings/Default.aspx>.

¹⁶⁴ See <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=D031AA97-C964-4060-8A53-EA67F51F14F1>.

2. The EDAM Transmission Availability Design Will Not Interfere With Participation in Resource Adequacy Programs

Many commenters highlighted the efforts of the CAISO to accommodate a multitude of resource adequacy programs, including the WRAP program in the design of the EDAM tariff provisions. For example, PacifiCorp notes the CAISO's proposal to accommodate WRAP transfers is the result of extensive stakeholder engagement and appropriately balances the goals of enhancing EDAM market efficiencies – through maximizing transmission availability – while respecting OATT-based transmission rights and scheduling priorities to the extent feasible.¹⁶⁵ Similarly, PGE comments that the EDAM tariff respects the OATT framework and the firm rights that are a cornerstone of the WRAP operations program and that it appreciates the collaboration among the CAISO, WPP, and stakeholders to enable this interoperability.¹⁶⁶

Arizona Utilities ask the Commission to encourage the CAISO to work closely with WPP and other stakeholders to address and remaining interoperability concerns between EDAM and WPP's WRAP.¹⁶⁷ Consistent with its commitments in the August 22 Filing and this Answer, the CAISO will continue to work with WPP and its members to address any interoperability issues identified after EDAM is implemented. This commitment stands in keeping with the level of coordination throughout the development of EDAM as expressed by

¹⁶⁵ PacifiCorp at 16-18.

¹⁶⁶ PGE at 4-5.

¹⁶⁷ Arizona Utilities at 3, 13-14.

many commenters, including WPP.¹⁶⁸ The CAISO believes any specific future enhancements that may come out of ongoing collaboration with WPP and WRAP participants are beyond the scope of this proceeding. Based on operational experience, as well as input from WPP and other stakeholders, the CAISO intends to consider proposals to address any significant issues that may arise and develop appropriate enhancements for future consideration by the Commission.

WPP states it is optimistic about the potential solutions to WRAP operational interactions discussed in the August 22 Filing, and commends the CAISO for remaining engaged on these issues to pursue acceptable potential solutions for inclusion in the August 22 Filing. WPP seeks clarification on certain aspects of the CAISO's transmission scheduling proposals.¹⁶⁹ WPP's comments suggest that clarification might be necessary for a WRAP participant to understand its obligations well in advance of the market. Issues related to WRAP requirements in advance of the day-ahead market time frames are beyond the scope of this proceeding. As such, the CAISO's responses focus on the operation of the markets and not on requirements WRAP members may have in advance of the day-ahead market timelines.

Overall, the EDAM transmission availability framework should not expose WRAP participants to a degradation of their contracted-for OATT rights, although it will certainly require development and implementation of new practices and

¹⁶⁸ WPP at 8-9.

¹⁶⁹ *Id.* at 2-3, 8-9.

procedures by EDAM transmission service providers as explained in the August 22 Filing and clarified in this Answer. The CAISO, in support of this perspective, responds to the requests for confirmation and clarification by WPP, subject to matters that may only be determined by individual EDAM transmission service providers. The CAISO believes that WPP's comments should be understood as generally supportive of the EDAM transmission availability framework. Further, the CAISO remains committed to working with WPP, WRAP participants, and EDAM transmission service providers to ensure any associated implementation details are appropriately reflected in supporting transmission tariffs and business practices.

WPP requests confirmation that, if a WRAP participant with firm OATT transmission service (whose transmission service provider/balancing authority operator is a EDAM participant) submits a self-schedule prior to the day-ahead market run, that schedule will maintain its priority and other economic transfers will be curtailed in real-time ahead of the WRAP participant's transaction.¹⁷⁰ The CAISO confirms that, for properly qualified rights with notification, it will provide a market clearing priority above cleared day-ahead EDAM transfer schedules on an EDAM transmission service provider system and, if redispatch or other actions by the host EDAM balancing authority are unable to resolve the infeasibility in a timely manner, cleared day-ahead EDAM transfer schedules will be adjusted to make room for the schedules associated with the specific exercise of the qualified rights after the close of the day-ahead market. Such an

¹⁷⁰ *Id.* at 10-11.

adjustment may thereafter be followed by further action by the EDAM transmission service provider that, in any event, retains its authority throughout real-time to manage schedules and flows on its transmission system.

WPP asks for confirmation that language in new tariff section 33.18.2.2.3 means that, if an EDAM transmission service provider notifies the CAISO that a self-schedule submitted after the day-ahead market is associated with firm or conditional firm transmission service and should therefore have higher priority than less-firm market transfers, the CAISO will treat that self-schedule with the same priority as if the self-schedule had been submitted before the day-ahead market. WPP further understands this language to be absolute – *i.e.*, if the transmission service provider so notifies the CAISO, the CAISO will simply treat the transfer as firm automatically and will redispatch the market to accommodate it.¹⁷¹ As explained in the August 22 Filing, the CAISO will take the direction from EDAM transmission service providers with respect to which OATT rights exercised after the close of the day-ahead market, without condition. The CAISO expects that the associated contract reference number (CRN) would be configured based on EDAM transmission service provider instruction to designate eligibility for the higher priority when the schedule is submitted after the close of the day-ahead market. Once the CRN has been configured in the CAISO's systems, there is no additional test, and the CAISO does not have subsequent discretion to ignore the requested schedule change, provided the

¹⁷¹ *Id.* at 11-12. WPP requests further confirmation that there is no additional test or CAISO discretion when an EDAM transmission service provider has notified the CAISO to treat such a self-schedule as firm.

CAISO has been properly notified of the updated schedule. The CAISO provides additional implementation detail on the process and timing of these notifications in this Answer below.

WPP interprets the tariff to permit transmission service providers to provide the instruction to the CAISO at any time during the prior day or the operating day, and asks the CAISO and the Commission to so confirm. WPP also expects that the CAISO will implement this mechanism by assigning such self-schedules a higher penalty price relative to other day-ahead market schedules, but suggests the CAISO tariff is unclear on this point and may require additional clarification regarding exactly how the CAISO will honor the instruction.¹⁷²

In response to this request, the CAISO details the applicable steps. The first step will be for a CRN associated with a firm transmission service right to be configured as eligible for the higher scheduling priority in the real-time market and associated with a transfer system resource. Once the CRN is appropriately configured, the CAISO anticipates receiving any associated schedule changes after the close of the day-ahead market from the EDAM balancing authority by T-75 to align with its administration of EDAM legacy contracts and the submission of schedule changes, *i.e.*, prior to the hour-ahead scheduling process. This schedule change before the hour-ahead scheduling process will fully account for the change in the real-time market and mitigates the potential for redispatch in the real-time market. After T-75 and up until the close of the real-time market at

¹⁷² *Id.* at 13.

T-40, the schedule change would be accounted for in the real-time market through the submission of a pre-hour schedule change submitted by the EDAM balancing authority. This submission can be updated through the real-time market by the EDAM balancing authority. These subsequent schedule changes after the real-time market runs at T-40 up until T-20, depending on the timing of the change, may be reflected in the fifteen-minute market solution, but otherwise would be accommodated as an operational adjustment, *i.e.*, instructed imbalance energy, outside of the market clearing of the real-time market.¹⁷³

Implementation details associated with these procedures and timelines will be provided in the BPM for the extended day-ahead market. In addition, each EDAM transmission service provider will need to develop mechanisms for its customers to notify them in advance of the CAISO deadline. It is not necessary to include these implementation details on exactly how the CAISO will process EDAM transmission service provider instructions in the tariff. Nonetheless, the CAISO confirms that, for properly qualified rights with timely notification, it will establish a market clearing penalty price above cleared day-ahead EDAM transfer schedules similar to how it administers similar priorities in the market optimization. This market scheduling priority does not mean these schedules will have a higher priority across another transmission system, including the CAISO

¹⁷³ These schedules would not be reflected in the market but will be recognized by settlements based upon EDAM balancing authority approved after-the-fact tags. It would be incumbent on the EDAM balancing authority to manage these after-the-fact tags and the associated transmission curtailments, if needed, followed by provision of the after-the-fact tags to the CAISO. The CAISO would settle the differences from the real-time dispatch quantity as an operational adjustment at the instructed real-time dispatch price. This is consistent with the CAISO's administration of base transfer schedule changes in the WEIM using the CAISO scheduling system.

system. All balancing area, transmission operation, and transmission service requirements would apply on a balancing-area-by-balancing-area basis regardless of the priority afforded the OATT schedules on an EDAM transmission service provider system or the CAISO system.

WPP notes that individual EDAM transmission service provider tariffs apparently will need to be revised to implement this mechanism. WPP asks for clarification on the timing and process requirements for these individual EDAM transmission service provider tariff filings, and confirmation that EDAM transmission service providers are prohibited from imposing additional conditions on transmission customers that would impact or limit their ability to exercise the option.¹⁷⁴

It would be premature to address issues in advance of future filings by EDAM transmission service providers. The EDAM transmission availability framework was specifically designed to provide transmission service providers the opportunity to determine how best to account for transmission service on their systems. The CAISO will work with parties planning to participate in EDAM to evaluate potential amendments to their OATTs, but cannot prejudge what filings under section 205 of the FPA those EDAM transmission service providers may determine are reasonable to facilitate their participation in EDAM. The CAISO tariff provisions before the Commission in this proceeding do not impose additional conditions on transmission customers exercising options under their

¹⁷⁴ *Id.* at 13-14. WPP notes that the *pro forma* OATT specifies that firm transmission service will “always” have priority over non-firm service, and suggests the *pro forma* does not currently appear to contemplate the additional process a transmission customer or transmission service provider will need to follow to maintain transmission service priority in EDAM.

applicable OATTs. However, it will be up to each prospective EDAM transmission service provider to determine how it will incorporate this provision into its tariff. As explained, the CAISO anticipates some consistency but does not through its tariff mandate a specific means for implementation of each requirement. Rather, the CAISO will coordinate and collaborate with EDAM transmission service providers to adopt common rules and practices regarding implementation of the CAISO tariff transmission availability framework.¹⁷⁵

WPP requests greater clarity on the process for invoking the new tariff section 33.18.2.2.3 intra-day process for maintaining transmission service priority or an indication that such clarity will be provided in individual EDAM transmission service provider OATT filings.¹⁷⁶ As explained in section III.F of this Answer, it would be premature to address issues in advance of future filings by EDAM transmission service providers. The CAISO will work with parties planning to participate in EDAM to evaluate potential amendments to their OATTs, but cannot prejudge what FPA section 205 filings those EDAM transmission service providers may determine are reasonable to facilitate their participation in EDAM. In addition, the CAISO has observed that WEIM participants work collaboratively together to share best practices and build on the participation framework approved by the Commission for their WEIM predecessors. As entities join at different times, this evolution provides a high degree of comparability between tariffs as well improvements based on operational experience.

¹⁷⁵ See section III.F of this Answer.

¹⁷⁶ WPP at 14.

WPP asks for confirmation of its understanding of the option for transmission service provider notice that transmission availability should be restricted under new tariff section 33.18.3.3 to enable a transmission customer, through its transmission service provider, to make its firm transmission rights entirely unavailable to EDAM, such that EDAM would dispatch around and not use the unavailable transmission in market clearing.¹⁷⁷ As explained in the August 22 Filing, the CAISO expects the conditions warranting a carve-out will be limited. This perspective reflects that use of the carve-out would be contrary to the objective of maximizing the transmission capacity available to the market. Accordingly, this approach should be limited and the option for the exercise of firm transmission rights to have a market clearing priority above cleared day-ahead transfer schedules in the real-time market should be implemented instead of the carve-out if at all possible. This option ensures that the day-ahead market would more fully account for all utilization of the transmission system and would be preferable to the carve-out approach. Informing the market of transmission utilization mitigates the need to designate transmission paths as carved out and will lead to more efficient market outcomes and enhanced reliability through collective awareness of operations within the EDAM area.

WPP suggests that the proposed EDAM tariff provisions lack detail about the process to be used for: (1) the transmission customer to make this election with its transmission service provider; and (2) for the transmission service

¹⁷⁷ *Id.* at 15-16.

provider to convey the information to the CAISO.¹⁷⁸ Details on the submission of information by EDAM transmission service providers to the CAISO will be subject to a BPM, which will be developed with stakeholder input through the CAISO's Commission-approved BPM change management process.¹⁷⁹ Details on transmission customer elections will likely be included in the OATT of each EDAM transmission service provider and is not within the scope of this tariff filing. The CAISO expects such details to be developed well in advance of the particular entity's EDAM implementation.

The CAISO will administer simple requests for a carve-out through a transmission outage-like or derate submission-like process and will follow the same timelines for planned outage as required for EDAM. Some carve-out requests may involve additional consideration by the EDAM transmission service provider prior to implementation. For example, submission of an outage to derate transmission capability on a flowgate associated with a nomogram may include consideration of additional details that should be addressed prior to implementation of the outage. In such cases, the CAISO will collaborate with the EDAM balancing authority to implement the request for a carve-out involving any considerations unique to the transmission system of a particular EDAM balancing area.

¹⁷⁸ *Id.* at 16.

¹⁷⁹ See existing tariff section 22.11.

H. The Proposed Tariff Revisions Reasonably Ensure Resource Sufficiency in the Day-Ahead Time Horizon for EDAM

As confirmed by feedback in the stakeholder process and the comments submitted in this proceeding, there is widespread support for the EDAM resource sufficiency evaluation (RSE) from a broad selection of entities throughout the West. For the reasons explained below, the CAISO respectfully requests the Commission accept its proposed revisions in new tariff sections 33.31.1 and 33.11.1 to effectuate this key piece of the EDAM market design.¹⁸⁰

One key value of EDAM is its voluntary nature, meaning that a participant does not need to join a common resource adequacy program as a prerequisite to participation in EDAM. This key value has been a constant foundation during the process of designing EDAM and structuring a uniform resource sufficiency evaluation.¹⁸¹ The uniform resource sufficiency evaluation works as a component of the voluntary participation model to allow EDAM to accommodate a diverse set of resource adequacy programs.¹⁸² Many commenters noted this as a key feature of EDAM.¹⁸³ Under this voluntary participation model, each EDAM entity as well as the CAISO will continue to retain key roles and functions

¹⁸⁰ See new tariff sections 33.31 and 33.11.

¹⁸¹ See, e.g., September 16, 2019 letter at 2, available at <https://www.caiso.com/InitiativeDocuments/PublicCommentLetter-EIMEntites-EDAM-Sep16-2019.pdf> (initiating the formal exploration of the possibility of extending access to the CAISO day-ahead market).

¹⁸² Transmittal letter for August 22 Filing at 138-39, 145-47 (explaining that the CAISO worked with all interested parties in the stakeholder process to evaluate several critical market design topics, including the resource sufficiency evaluation, with the majority of parties ultimately supporting the final EDAM resource sufficiency evaluation).

¹⁸³ See, e.g., Google at 7 (“A key recurring theme in the instant filing is CAISO’s clear and deliberate effort to preserve existing arrangements and balancing authority (‘BA’) autonomy while simultaneously promoting confidence in markets.”).

including, but not limited to, individual resource and transmission planning. The EDAM resource sufficiency evaluation is structured so that participating entities retain these important functions and will continue their long-term and short-term reliability planning and operations as they do today, while at the same time contributing to regional coordination and reliability.¹⁸⁴ Under the design of the EDAM resource sufficiency evaluation, each balancing authority will be evaluated on an individual basis before accessing the CAISO's day-ahead market to determine if its own resources offered to the market for optimization are sufficient to meet its forecasted need for energy, imbalance reserves, and ancillary services. Entities that do not cure their deficiencies prior to the binding assessment will be assessed failure surcharges tailored to the nature of failure. The CAISO respectfully requests the Commission accept its proposed tariff revisions to effectuate this key piece of the EDAM market design.¹⁸⁵

1. The Structure of the EDAM Resource Sufficiency Evaluation is Just and Reasonable

In considering comments on the August 22 Filing, it is important to distinguish between resource adequacy and resource sufficiency. The EDAM resource sufficiency evaluation is a common metric that is inclusive of, and an adaptor for, a wide variety of resource adequacy programs. The nature of the proposed EDAM resource sufficiency evaluation as a “universal adapter” respects the ability of individual entities to manage their long-term resource

¹⁸⁴ EPSC at 4 (stating that “mechanisms to extend the ISO’s day-ahead market framework to additional balancing areas in the [WEIM], like those in EDAM, provide access to a more diverse and expansive regional mix of resources thereby improving regional coordination and extending reliability, economic, and environmental benefits to a broader set of consumers”).

¹⁸⁵ See new tariff sections 33.31 and 33.11.

planning programs. The EDAM resource sufficiency evaluation has never been intended to modify, supplant, or otherwise replace state, local, or regional resource adequacy programs, nor impose a specific or singular resource adequacy program. In fact, the EDAM resource sufficiency evaluation is designed to work in conjunction with, and not undermine, diverse resource adequacy programs throughout the West. A key feature of EDAM is that a specific resource adequacy program *is not* a prerequisite to participation in EDAM, with the economic, reliability, and environmental benefits of EDAM enabled for all participants, regardless of the resource adequacy program under which they may operate.

The Commission should reject suggestions that the CAISO's proposal is flawed because all EDAM participants are not required to be part of a common resource adequacy program.¹⁸⁶ Under the proposed structure for the EDAM resource sufficiency evaluation, each balancing authority that chooses to participate in EDAM will remain responsible for maintaining the reliability of its balancing area. This includes meeting operating reserve and capacity requirements, scheduling and curtailment of the transmission facilities under its operational control, and, as necessary, manually dispatching resources out-of-market to maintain reliability. The proposed tariff revisions recognize the retention of these responsibilities and also includes a structure for the EDAM resource sufficiency evaluation to ensure that each participating balancing area

¹⁸⁶ See, e.g., Powerex at 20-21; Vistra at 33-36.

has sufficient resources to serve load in the day-ahead time frame while still realizing the benefits of increased resource diversity.

The strong support of commenters for the structure of the EDAM resource sufficiency evaluation further demonstrates the just and reasonableness of the proposed tariff revisions.¹⁸⁷ For example, WPP commends the CAISO for its work to ensure the EDAM resource sufficiency evaluation interacts and operates in parallel with, but not as a replacement of, the WRAP program.¹⁸⁸ PGE similarly highlights this key interoperability design, explaining that interoperability with WRAP and the WEIM and EDAM “is critical to capturing both economic and reliability benefits.”¹⁸⁹ AEU supports the EDAM resource sufficiency evaluation for similar reasons as it “ensure[s] demand modifying demand response, including UDC programs, are recognized in the Resource Sufficiency Evaluation.”¹⁹⁰ The Commission has previously found that ongoing resource adequacy programs protect against insufficiency.¹⁹¹ In that order, the Commission also found that each balancing area’s native resource adequacy program and obligations to comply with reliability standards provide an adequate

¹⁸⁷ Idaho Power at 9 (“The RSE focuses on meeting the next day’s requirements and is not a substitute for long-term resource adequacy programs.”); PacifiCorp at 21 (“The EDAM model does not impose a West-wide resource adequacy paradigm. It does however, through the [resource sufficiency evaluation], set a minimum expectation of the evaluation of sufficient resources needed to satisfy the day-ahead needs of the balancing authority.” (internal quotation marks omitted)).

¹⁸⁸ WPP at 7 (highlighting that participating entities “will remain responsible for meeting their own resource adequacy needs and will have the opportunity to participate in a resource adequacy program of their choosing”) (internal quotation marks omitted).

¹⁸⁹ PGE at 4.

¹⁹⁰ AEU at 11.

¹⁹¹ *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231, at P 123 (2014).

resource sufficiency framework for the WEIM.¹⁹² The Commission found that forward capacity obligations should not be required for WEIM entities.¹⁹³ Furthermore, the Commission accepted the WRAP proposal in February 2023,¹⁹⁴ long after the Commission has repeatedly found the CAISO's resource adequacy provisions to be just and reasonable.¹⁹⁵ This is evidence that the Commission recognizes there can be multiple resource adequacy programs in the West. No commenter has shown why these Commission findings are flawed.¹⁹⁶

A uniform assessment of resource sufficiency, together with a configurable mechanism for each balancing authority to manage its supply, provide an innovative pathway for incrementally advancing the interconnectedness of balancing areas in a just, reasonable, and non-discriminatory manner. The WEIM Governing Body and the CAISO Governing Board, as well as the majority of stakeholders, agree that the EDAM resource sufficiency evaluation is the appropriate tool to complement and maximize the value of these resource adequacy programs by ensuring participants can account for the capacity and optimize use of resources they have procured to support reliability within their individual footprints. The structure of the EDAM resource sufficiency evaluation,

¹⁹² *Id.* at P 122.

¹⁹³ *Id.* at P 123.

¹⁹⁴ *See Nw. Power Pool*, 182 FERC ¶ 61,063 (2023).

¹⁹⁵ *See Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at PP 4,10, 1119; *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076, at P 564 (2007).

¹⁹⁶ Bonneville, Powerex, and Vistra present comments on the structure of the EDAM resource sufficiency evaluation and promote a policy structure that relies on a common resource adequacy program. *See, e.g.*, Bonneville at 15-16, Powerex at 20-21, Vistra at 33-36. These commenters do not present legal arguments to support a finding that the EDAM structure proposed by the CAISO is insufficient under section 205 of the FPA.

which accommodates a diverse set of resource adequacy programs in numerous states across the West, is just and reasonable as it allows EDAM participants to gain the benefits of increased resource diversity in the day-ahead timeframe while preventing inappropriate reliance on the capacity resources of a neighboring balancing areas.

2. The Design of the EDAM Resource Sufficiency Evaluation is Just and Reasonable

Like the overall structure of the EDAM resource sufficiency evaluation, the design of the EDAM resource sufficiency evaluation received broad stakeholder support, reaffirmed by commenters. As many of the commenters explain, the design of the EDAM resource sufficiency evaluation allows EDAM participants to gain the benefits of increased resource diversity in the day-ahead timeframe while preventing inappropriate reliance on the capacity resources of neighboring balancing areas.¹⁹⁷ For example, BANC affirms how the EDAM resource sufficiency evaluation proposed by the CAISO “discourages entities with insufficient resources from ‘leaning’ on its neighboring balancing authorities while also ensuring adequate procurement of resources necessary to recognize the benefits of the pooled optimization of resources.”¹⁹⁸ SMUD similarly supports the EDAM resource sufficiency evaluation, explain its criticality to ensuring all participants both receive and provide diversity benefits to the region.¹⁹⁹

¹⁹⁷ See, e.g., AEU at 9-10; BANC at 6; Idaho Power at 8-9; NV Energy at 17-18.

¹⁹⁸ BANC at 8 (internal quotation marks omitted).

¹⁹⁹ SMUD at 3.

PacifiCorp reaffirms the criticality of the design of the EDAM resource sufficiency evaluation.²⁰⁰

As also discussed above with regard to DAME,²⁰¹ under section 205 of the FPA, the Commission limits its evaluation of a utility's proposed tariff revisions to an inquiry into 'whether the rates proposed by a utility are reasonable – and not to extend to determining whether a proposed rate schedule is more or less reasonable to alternative rate designs.'²⁰² For all the reasons set forth in the August 22 Filing and this Answer, the EDAM resource sufficiency evaluation is a just and reasonable cornerstone of the EDAM market design.

Some commenters raise clarifying questions, or points of criticism, to which the CAISO responds below. Bonneville queries how EDAM implementation will preserve the diversity-sharing platform that serves as the base for WRAP,²⁰³ and Powerex queries how EDAM implementation will preserve the reliability benefits of WRAP.²⁰⁴

²⁰⁰ PacifiCorp at 21 ("Without a basic check on resource adequacy within each EDAM BAA [balancing authority area], the market design could incentivize leaning on other EDAM members, notwithstanding that the market algorithm would likely still reach a solution that serves load.").

²⁰¹ See section III.A.3 of this Answer.

²⁰² *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44 n.43 (quoting *City of Bethany v. FERC*, 727 F.2d at 1136). In that same order, the Commission also explained that the revisions proposed by the utility "need not be the only reasonable methodology" and that "even if an intervenor develops an alternative proposal, the Commission must accept a section 205 filing if it is just and reasonable, regardless of the merits of the alternative proposal." 141 FERC ¶ 61,135, at P 44 n.43 (citing federal court and Commission precedent). See also *New Eng. Power Co.*, 52 FERC ¶ 61,090, at 61,336, *aff'd sub nom. Town of Norwood v. FERC*, 962 F.2d 20 (proposed rate design need not be perfect, it merely needs to be just and reasonable); *Louisville Gas & Elec. Co.*, 114 FERC ¶ 61,282, at P 29 (the just and reasonable standard under the FPA is not so rigid as to limit rates to a "best rate" or "most efficient rate" standard, but rather a range of different approaches often may be just and reasonable).

²⁰³ Bonneville at 15.

²⁰⁴ Powerex at 20-21.

The CAISO clarifies that the EDAM resource sufficiency evaluation is aligned with WRAP, as well as other resource adequacy programs in the Western states such as California's resource adequacy programs. EDAM allows each participating balancing area to continue to determine how best to address its own resource adequacy needs. The alignment of EDAM with a variety of resource adequacy approaches is enabled through the resource sufficiency evaluation, which serves as a "universal adapter" that will account for supply adequacy and shortfalls across various resource adequacy programs. The EDAM design is not intended to change resource adequacy programs, and the resource sufficiency evaluation explicitly recognizes supply secured under WRAP and other resource adequacy programs.

Vistra questions whether "an EDAM BAA that is short on the supply necessary to meet its needs can pay another EDAM BAA—presumably that has excess capacity available— to assume a portion of its RSE obligation."²⁰⁵ Balancing authorities that are deficient in the advisory runs of the resource sufficiency evaluation rationally will take action to fill the identified deficiency. In some cases, a deficient balancing area may enter into a bilateral arrangement with a sufficient balancing area, but such arrangements would not be facilitated through the CAISO as a payment to assume a portion of an RSE obligation. The

²⁰⁵ Vistra at 38.

CAISO clarifies that such a practice is not set forth in its proposed tariff revisions.²⁰⁶

Six Cities raise questions about potential *de minimis* exceptions to the tagging obligations in new tariff sections 33.30.8.3 and 33.31.1.6.²⁰⁷ The stakeholder process considered *de minimis* exceptions for balancing authorities that experience a resource sufficiency failure and implemented the consensus exemptions from the associated failure surcharges. Stakeholders did not reach similar consensus on a *de minimis* tagging exception, but the CAISO will be monitoring tagging and will evaluate the need for such an exception through its future enhancement initiatives. In response to PG&E's request for clarification on how tagging deficiencies can be cured,²⁰⁸ the CAISO notes that the specific implementation details will be included in the applicable BPM, for which the CAISO welcomes participation of stakeholders through its BPM change management process to ensure the implementation details are correctly documented.

With respect to SDG&E's comments about delivered firm energy contracts, such as arrangements pursuant to Schedule C of the Western Systems Power Pool (WSPCC) Agreement and other bilateral intertie arrangements,²⁰⁹ the CAISO intends to implement the general stakeholder

²⁰⁶ *But see* new tariff section 33.31.1.2.2 (specifying how the CAISO will account for EDAM transfers for purposes of the EDAM resource sufficiency evaluation).

²⁰⁷ Six Cities at 15.

²⁰⁸ See PG&E at 7-8.

²⁰⁹ SDG&E at 6.

consensus that such obligations are sufficient to satisfy the obligations of the EDAM resource sufficiency evaluation, subject to certain minimal requirements.²¹⁰ The CAISO will document these implementation details in the applicable BPM and will take into account stakeholder input as part of the Commission-approved BPM change management process.²¹¹

3. The EDAM Resource Sufficiency Evaluation Is Broadly Supported as a Just and Reasonable Component of EDAM

As the comments demonstrate, the EDAM resource sufficiency evaluation is the product of broad, but not universal, consensus. As NV Energy describes, similar to the other core components of the EDAM design, the proposed resource sufficiency evaluation represents the culmination of extensive stakeholder negotiations that produced a viable package to support start-up of EDAM.²¹² Commenters affirm that the CAISO's stakeholder process, including the consideration of the EDAM resource sufficiency evaluation, "allowed for a diversity of perspectives to be considered at once, were broadly available to the public (including publicly posted recordings and decks), and provided more detail on different options when needed."²¹³ As Google explains, the CAISO's "deliberate attempt to facilitate inclusion among a broad set of stakeholders

²¹⁰ See EDAM Final Proposal at 36, 66.

²¹¹ See existing tariff section 22.11.

²¹² NV Energy at 17-18.

²¹³ CEBA at 3.

ultimately led to a more robust market design that reflects the needs of many stakeholders, not just one subset or group of stakeholders.”²¹⁴

Some commenters, all of which participated in the CAISO’s stakeholder process, request that the CAISO modify elements of the proposed design of the EDAM resource sufficiency evaluation or request that the Commission direct the CAISO to develop a design based on fundamentally different principles.

Specifically, Bonneville states that it “accepts that balancing authorities may have different Resource Sufficiency tests, but requests that the Commission direct the CAISO to provide more transparent Resource Sufficiency test evaluations among balancing authorities in order to prevent balancing authorities from potentially leaning on the market instead of adequately procuring capacity to serve their load.”²¹⁵ The CAISO clarifies that, contrary to this assertion, balancing authorities will not have different resource sufficiency tests and the same evaluation will be applied uniformly to all balancing authorities. As explained in the August 22 Filing, the EDAM resource sufficiency evaluation will identify each balancing authority’s demand for energy, imbalance reserves, and imbalance services and then will evaluate whether the balancing authority’s resources are sufficient to meet the identified need in each hour of the day.²¹⁶ Each component of the EDAM resource sufficiency evaluation will be made available to the balancing authorities, and the balancing authorities will be able to measure their

²¹⁴ Google at 9.

²¹⁵ Bonneville at 14.

²¹⁶ Transmittal letter for August 22 Filing at 146.

progress to satisfying the binding evaluation.²¹⁷ In addition, the CAISO will make available public information about the EDAM resource sufficiency evaluation to ensure a transparent resource sufficiency test.

Bonneville also expresses concern with the “the timing of the resource sufficiency test and proposed consequences for failure may operate too late to truly address lack of procurement,” and requests that the Commission “direct the CAISO to create a mechanism that clearly identifies the difference between failures to procure adequate resource supply given forecasted possibility of need, versus declaring an Energy Emergency Alert due to specific unforeseen changes where a balancing authority does not have the opportunity to secure additional supply when necessary.”²¹⁸ As explained in the August 22 Filing, the CAISO will make available at least two advisory results of the resource sufficiency evaluation which will provide entities sufficient notice of their identified deficiencies. Where an entity is unable to fulfill its deficiencies, it will be exposed to substantial financial penalties in the form of EDAM resource sufficiency evaluation failure surcharges.²¹⁹ These penalties strengthen the incentive for EDAM entities to maintain resource sufficiency through practices that support forward procurement and are in addition to the non-financial consequence of individual evaluation for

²¹⁷ See new tariff section 33.31.1.1 (providing for at least two advisory runs of the EDAM resource sufficiency evaluation, with the schedule for additional advisory results made available in the BPM).

²¹⁸ Bonneville at 14.

²¹⁹ See new tariff section 33.31.1.5 (providing for surcharges in the on-peak and off-peak hours for failures in the upward direction and a surcharge for failures in the downward direction in both the on- and off-peak hours).

purposes of the WEIM resource sufficiency evaluation.²²⁰ As explained above, the CAISO will publish the results of the EDAM resource sufficiency evaluation, identifying entities that pass and fail the evaluation on a daily basis. In light of this, there is no need for the Commission to require the CAISO to create an additional mechanism to track the specific metric requested.

Vistra expresses concern that the proposed resource sufficiency evaluation framework will not prevent leaning and may dilute WEIM resource sufficiency evaluation requirements. Specifically, Vistra claims that the “WEIM has facilitated extensive leaning by the CAISO BAA on the rest of the WEIM market” and, referencing one summer event from 2022, concludes that “is the WEIM RSE framework—which CAISO seeks to now implement for its day-ahead market—is not a meaningful mechanism to ensure BAAs procure sufficient resources necessary to serve their own system needs.”²²¹ While the CAISO acknowledges the rare and extreme events of September 2022, the CAISO does not agree with Vistra that this episode calls into question the effectiveness of the WEIM resource sufficiency evaluation. In the first instance, the CAISO has completed and implemented two phases of enhancements to the resource sufficiency evaluation that Vistra does not acknowledge and which were designed to address the situation of September 2022.²²² As commenters

²²⁰ See EDAM Final Proposal at 21-22 (explaining that “[t]he draft final and this final proposal refine the policy design regarding the consequences for failing the EDAM RSE to strengthen the incentive for EDAM entities consistently to enter the market sufficient through practices that support forward procurement sufficient to pass the RSE”).

²²¹ Vistra at 34.

²²² See, e.g., Summer Market Performance Report at 16 (Sept. 2022), available at <http://www.caiso.com/Documents/SummerMarketPerformanceReportforSeptember2022.pdf>. See

observed, there will likely be opportunities to refine the EDAM resource sufficiency evaluation over time as experience is gained, but this proposed design is sufficient to address the types of “leaning” concerns surfaced by Vistra.

Vistra also raises concerns about the EDAM resource sufficiency evaluation design and its consideration of deliverability.²²³ As the CAISO explained in the EDAM Final Proposal, the CAISO explored with stakeholders the feasibility of incorporating deliverability into the EDAM resource sufficiency evaluation and determined that, at this time, including deliverability is not required for a just and reasonable solution.²²⁴ The CAISO agrees with the comments of DMM that, in future initiatives, it will be appropriate for the CAISO and EDAM stakeholders to “consider more nuanced rule and design changes.”²²⁵

Vistra questions whether the failure surcharge framework is a sufficient deterrent to insufficiency.²²⁶ As explained in the August 22 Filing, the proposed financial consequences are a reasonable proxy for the prices an EDAM balancing area would face if it sought to cure any deficiency through the existing day-ahead bilateral market. In the stakeholder process, the CAISO evaluated a variety of different proposals on failure consequences. Stakeholders agreed that the proposed design, with surcharges specifically tailored to address the risks,

also Cal. Indep. Sys. Operator Corp., 179 FERC ¶ 61,151, *order on reh'g*, 180 FERC ¶ 61,101 (2021) (accepting the RSE Phase 1 enhancements); *Cal. Indep. Sys. Operator Corp.*, 183 FERC ¶ 61,146 (2023) (accepting the RSE Phase 2 enhancements).

²²³ Vistra at 37.

²²⁴ EDAM Final Proposal at 61-62.

²²⁵ DMM at 26.

²²⁶ *Id.* at 39-41.

was reasonable.²²⁷ The CAISO, along with DMM, will monitor performance of the resource sufficiency evaluation and its associated surcharges to gain the information necessary to determine if the financial consequences should be revised.

Finally, Vistra questions the advisability of including within the passing pool balancing authorities that cured their supply deficiencies through the integrated forward market, based on an understanding that “those shortfalls will be carried into the WEIM.”²²⁸ The CAISO clarifies that entities that are not sufficient after the CAISO clears the day-ahead market *will not* be included in the pool of balancing authorities that are jointly evaluated for the WEIM resource sufficiency evaluation. Vistra’s assertion that the proposal as filed allows a “failing EDAM BAA to lean on the supply of other BAAs to pass the real-time RSE test,” is incorrect.²²⁹ Entities that cure through the integrated forward market are procuring supply from *any* resource and not only “the supply of other BAAs.” Only when such sufficient supply is secured through the day-ahead market is an entity included within the passing pool and deficiencies are not “carried into the WEIM.”

For all the reasons set forth in the August 22 Filing and this Answer, the EDAM resource sufficiency evaluation is a just and reasonable component of the EDAM market design. There is no need for the Commission to mandate the

²²⁷ See EDAM Final Proposal at 70-76.

²²⁸ Vistra at 42-43.

²²⁹ See *id.* at 42.

additional reporting requirements related to resource sufficiency evaluations proposed by Vistra and WPTF.²³⁰ As detailed in section III.R.2 of this Answer, the CAISO is engaged in extensive and ongoing reporting of market performance published for all stakeholders to consider. The CAISO fully expects that, as an extension of the day-ahead market, EDAM performance will be captured within existing reports, including elements of the EDAM resource sufficiency evaluation as suggested in submitted comments.

I. The Proposal Reasonably Permits But Does Not Require Virtual Bidding to Be Enabled When a Balancing Authority First Participates in EDAM

As explained in the August 22 Filing, based on overwhelming stakeholder input, the CAISO appropriately proposes to allow EDAM transmission service providers to enable virtual or convergence bidding in their balancing areas at the onset of their participation in EDAM but will not mandate it. This stakeholder consensus is reflected in comments in this proceeding. One commenter promotes the enabling of virtual bidding, but notes it can be evaluated for future implementation.²³¹ NV Energy comments on potential future enhancements to the CAISO's authority to suspend convergence bidding in part based on recommendations of an EDAM entity.²³² While such future enhancements are beyond the scope of this proceeding, the CAISO is committed to evaluate appropriate adjustments to the application of convergence bidding as all EDAM

²³⁰ See Vistra at 53; WPTF at 24.

²³¹ Interwest at 7.

²³² NV Energy at 18-23.

participants collectively gain experience in the day-ahead market.²³³ In response to questions raised by Six Cities,²³⁴ the CAISO notes it will also monitor the implementation of virtual bidding in balancing areas participating in EDAM.

J. The Tariff Appropriately Accommodates Participation By External Resources in EDAM

ACP recommends that the Commission condition approval of the proposed intertie bidding structure for EDAM upon a requirement that the CAISO bring modifications forward for review on or before the date another day-ahead market platform in the West is scheduled to commence operations.²³⁵ There is no reason to impose such a condition: as explained in sections III.F, III.M.2, and III.R.2, of this Answer, the CAISO will work with stakeholders to address any further concerns, including resource participation issues, based on actual operational experience and understood circumstances.

Any proposal to address external resource participation concerns would necessarily require the consideration of changes to existing market rules. There has been no showing that the WEIM external resource participation rules or their extension to EDAM would not be just and reasonable. It is unclear how the Commission could accept any proposed solution at this time given such a change would create conflict with the existing market rules for WEIM external resource participation. Accordingly, it is unnecessary to condition acceptance of the proposed external resource participation framework for EDAM on this or any

²³³ See section III.S of this Answer, discussing the development of future enhancements to EDAM.

²³⁴ Six Cities at 15-16.

²³⁵ ACP at 13-14.

other potential future considerations. As affirmed in this Answer, the CAISO will work with its stakeholders and other interested entities, including other market operators, to address matters of concern to everyone, including issues related to external resource participation or potential seams.

Shell Energy contends that the proposed limitations for certain external resources to submit economic bids at certain adjacencies may introduce unreasonably high (and unavoidable) congestion and/or basis price risks for transactions.²³⁶ External resource participation in organized markets, particularly through economic bids at external interties, must appropriately account for uncertainties associated with delivery of the supply. External resource participation in the CAISO balancing area will be accounted for according to the existing market rules. With respect to other balancing areas participating in EDAM, particularly if external economic bidding is enabled, there may be a need for additional EDAM transmission service provider rules that appropriately accommodate external resource participation. As explained in the August 22 Filing, the proposed rules for external resource participation are just and reasonable and provide an appropriate framework for other EDAM balancing areas to account for external resource participation in their balancing areas.

DMM notes that, to monitor and report on activity related to the potential for double counting of resources, the CAISO will need to provide DMM with all relevant e-tag data for any transaction that goes into or out of any EDAM or

²³⁶ Shell Energy at 9-10.

WEIM balancing area. DMM states it will monitor and analyze these scenarios to the extent CAISO has made the requisite data available in a usable format.²³⁷

The CAISO commits to provide the necessary data to DMM, including e-tags associated with market transactions accounted for in the EDAM area.

DMM also requests that the CAISO clarify the policy being developed in the CAISO's concurrent stakeholder initiative on the CAISO balancing area's EDAM participation rules regarding how the real-time market would treat a non-resource-specific import, if the import ultimately sourced from the EDAM footprint.²³⁸ With the transition to EDAM all non-resource-specific intertie resources at the EDAM scheduling points will be subject to the same structure and the hour-ahead scheduling process (HASP) reversal rule will be equally applied.²³⁹ The CAISO clarifies that a non-resource-specific import from an EDAM balancing area would be modeled as an EDAM transfer associated with a contract reference number, an energy transfer system resource, and a self-schedule linked back to a resource in the EDAM balancing area. Intertie schedules awarded an energy schedule in the day-ahead market that subsequently have an incremental/decremental fifteen-minute market schedule

²³⁷ DMM at 25-26.

²³⁸ *Id.* at 27-28, 38.

²³⁹ The proposed tariff revisions explain how the CAISO calculates LMPs for intertie resources at scheduling points. See tariff appendix C, revised section A.8. Where the source or sink is unknown at the time of the day-ahead market run, the schedule is attributed to a Generic Generation Aggregation Point (GGAP) for the day-ahead and distributed in the real-time market to the Default Generation Aggregation Point (DGAP). *Id.*; see also new tariff section 33.27.3 (providing for a North and South DGAP). The CAISO calculates LMPs for such resources external to the Market Area through the same process that is used to calculate LMPs for PNodes within the Market Area. See tariff appendix C, revised section A.8; see also new tariff section 33.11.4.2 and existing tariff section 11.32 (explaining application of the HASP reversal rule).

change in the real-time market, and did not submit an e-tag prior to the HASP, will be subject to the HASP reversal rule applied through settlement.²⁴⁰ The CAISO is developing the implementation details through its BPM development process and is also working to develop training materials that will respond to the types of intricacies raised by DMM.²⁴¹

In any event, the CAISO will further engage with DMM in developing the BPMs and training materials to clarify what adjustments will be automated and which actions specific entities will be required to perform.²⁴² The additional clarity on specific implementation actions will aid all market participants, but such implementation and training details do not affect the justness and reasonableness of the proposal concerning external resource participation.

K. The Proposed Tariff Revisions Reasonably Provide for Greenhouse Gas Accounting in EDAM and the WEIM

In the August 22 Filing, the CAISO has proposed a modeling framework to allow the market optimization for EDAM and the WEIM to recognize the cost of compliance associated with state programs that have priced carbon. Today, California and Washington are states that have priced carbon. The proposed rules will allow scheduling coordinators for resources located within greenhouse gas (GHG) regulation areas or serving demand within GHG regulation areas to recover the costs of compliance with those state programs through a marginal

²⁴⁰ See new tariff section 33.11.4.2.

²⁴¹ For example, DMM queries whether and how to use a base transfer deviation when a non-resource-specific import is assigned to either the North or South GGAP. See DMM at 28. The CAISO is developing training materials and will address such logistical implementation details. The settlement implications are described in new tariff section 33.11.4.2 and tariff appendix C, revised section A.8.

²⁴² See DMM at 28.

GHG cost payment. Several parties filed comments supporting the proposed framework, including AEU, BANC, CEBA, CMUA, DMM, NV Energy, PacifiCorp, PGE, PIOs, and Six Cities. The CAISO is currently working with the California Air Resources Board and the State of Washington Department of Ecology to ensure California's cap-and-trade program and Washington's cap-and-invest program align with the proposed modeling approach, especially with respect to how these programs regulate electricity importers.²⁴³

1. The Proposed GHG Accounting Framework for EDAM Builds on the Commission-Approved Market Design for WEIM

The CAISO proposes to extend the Commission-approved WEIM GHG modeling framework to EDAM.²⁴⁴ This framework uses resource-specific bid adders that allow the market to attribute transfers into a GHG regulation area to EDAM resources and WEIM participating resources. The framework also allows sellers of power to recover their production costs associated with compliance with a state program that prices carbon and ensures demand outside of a GHG regulation area does not pay those compliance costs.

Vistra and Powerex both criticize the WEIM modeling framework, alleging it does not accurately account for GHG emissions of electricity imports into

²⁴³ The CAISO is participating in rulemaking activities initiated by the California Air Resources Board and Washington's Department of Ecology. In its comments, Bonneville notes its expectation that the CAISO will promptly extend the greenhouse gas accounting market design to Washington if and when the Washington Department of Ecology adopts rules enabling resource-specific deeming to the state. Bonneville at 16. The CAISO plans to coordinate the implementation of its proposed market rules with the Washington Department of Ecology to ensure the market rules and Washington's program remain aligned.

²⁴⁴ *Cal. Indep. Sys. Operator Corp* 147 FERC ¶ 61,231, at PP 238-40; *Cal. Indep. Sys. Operator Corp.*, 153 FERC ¶ 61,087, at PP 57-58; *Cal. Indep. Sys. Operator Corp.*, 165 FERC ¶ 61,050, at 17.

California. Vistra argues higher-emitting resources with no obligation to comply with GHG compliance programs are dispatched to support California load rather than California's own resources.²⁴⁵ Powerex asserts that the CAISO's market optimization dispatches external natural gas and coal resources to serve California demand and then attributes WEIM transfers to serve demand in California to hydroelectric resources.²⁴⁶

The Commission need not consider Vistra or Powerex's critique of existing WEIM GHG accounting tariff provisions in the context of the August 22 Filing. Their comments do not demonstrate the proposed tariff revisions are unjust and unreasonable. The WEIM includes both GHG regulation areas and areas that do not regulate GHG emissions and remains a voluntary market. The Commission has accepted the current WEIM design, which optimizes supply across the entire WEIM area based on energy bids and bid adders. The Commission's prior orders recognize this market mechanism and allow WEIM participating resources outside of a GHG regulation area to elect to submit bid adders to make the output of their resources available to serve demand in a GHG regulation area. The Commission's prior orders further recognize the phenomena of secondary dispatch in which high-emitting resources may backfill to support demand outside of a GHG regulation area and the CAISO's efforts to address this issue as part of a just and reasonable design. The current GHG accounting framework under WEIM is just and reasonable, and the EDAM design enhances the current WEIM

²⁴⁵ Vistra at 6, 43-44.

²⁴⁶ Powerex at 17-18.

approach through mechanisms to make attributions of GHG transfers more accurate and to further mitigate the potential for secondary dispatch.

Vistra and Powerex seek to advance an alternative to the GHG accounting framework filed in this proceeding in order to increase the GHG market clearing price – not based on voluntarily submitted bids but on a different market design. The FPA does not require the Commission to determine that the proposal as filed is the only solution to modeling GHG compliance costs or even the best solution, only a reasonable one.²⁴⁷ In its orders approving the existing WEIM GHG framework, the Commission reached such a determination.

The proposed EDAM GHG framework, and associated proposed enhancements to the WEIM framework, also significantly address Vistra and Powerex's critique. The GHG net export constraint (discussed further in section III.K.3 of this Answer) directly responds to stakeholder critiques that the market optimization may attribute a transfer to serve demand in a GHG regulation area to a resource located in a balancing area that is either a net importer in that interval or in excess of transfer limits of that balancing area.

Finally, both Vistra and Powerex raise concerns with data transparency under the WEIM GHG accounting framework. Those concerns do not support a finding that the proposed GHG framework in EDAM is not just and reasonable.

As described in section III.K.4 of this Answer below, the CAISO is working with

²⁴⁷ As discussed in more detail in section III.A.3 of this Answer, the Commission has explained that the revisions proposed by a public utility “need not be the only reasonable methodology” and that “even if an intervenor develops an alternative proposal, the Commission must accept a section 205 filing if it is just and reasonable, regardless of the merits of the alternative proposal.” *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44 n.43 (citing federal court and Commission precedent).

stakeholders in the context of GHG Coordination Working Groups to identify data needs and transparency measures. As an initial step, the CAISO plans to publish data reflecting hourly MWh and emission intensity associated with WEIM transfers attributed to serve California demand for calendar year 2022. In addition to transfers between WEIM entities, this data set will also include hourly MWh and GHG intensity of total system generation, imports, and exports for all WEIM entities. The CAISO expects this process will lead to a discussion of what data is necessary to enhance confidence in the GHG accounting framework and support state carbon reduction programs.

2. The Proposed GHG Reference Pass Creates an Optimized Counterfactual that Will Increase the Accuracy of Attributions to Serve Demand in a GHG Regulation Area

In EDAM, the proposal is to conduct an optimized GHG counterfactual based on submitted bids after the day-ahead resource sufficiency evaluation but prior to running the integrated forward market.²⁴⁸ In this process, the CAISO will identify reference schedules to reflect what dispatch would have occurred without GHG transfers. These reference schedules allow the market to identify an eligible MW value for EDAM resources located outside of a GHG regulation area to receive an attribution in the integrated forward market to serve demand in a GHG regulation area. The reference schedule in the day-ahead for an entity participating in EDAM will be the optimized GHG counterfactual. The reference schedule in real-time for an entity participating in EDAM will be the difference

²⁴⁸ New tariff section 33.32.2.3.

between the resource's day-ahead energy award and day-ahead GHG attribution. The MW value identified in reference schedules will reflect the difference between an EDAM resource's GHG reference schedule and its upper economic limit. For this limited purpose, the reference schedules are similar to base schedules in the WEIM.

SDG&E states that the GHG reference pass under the EDAM design will determine which resources will incur a GHG compliance cost, and unit commitments will be made. SDG&E suggests balancing areas outside a GHG regulation area will be optimized first and be able to claim the most economical imports. SDG&E encourages the Commission and CAISO to explore better options going forward.²⁴⁹

The Commission should not require the CAISO to take any action at this time on the issues raised by SDG&E. SDG&E's comments do not accurately describe the GHG reference pass, which serves as a counterfactual to determine how much of an hourly MW attribution a resource may receive to serve demand in a GHG regulation area through the integrated forward market. This counterfactual reflects submitted bids and self-schedules and serves the same purposes as base schedules in the WEIM to inform GHG attributions to serve California demand.²⁵⁰ SDG&E's comments also do not acknowledge that the

²⁴⁹ SDG&E at 6-7.

²⁵⁰ Vistra stretches a statement by the CAISO about the lack of base schedules in the day-ahead time frame in an attempt to support the need for a new GHG market design. Vistra at 47 & n.103. In the cited statement, the CAISO explained that, because there are no base schedules in the day-ahead market to serve as a counterfactual to inform GHG attributions, a new paradigm for identifying which resources are serving demand in these areas will be necessary. That paradigm is the GHG reference pass, which the CAISO proposes to run as part of the day-ahead

GHG reference pass will not dispatch capacity committed to serve demand in a GHG regulation area, thereby making it available to receive an attribution in the integrated forward market. SDG&E and other entities can secure this capacity through forward contracting.

The CAISO does view SDG&E's comment as suggesting a possible future enhancement. Based on operational experience, the CAISO intends to consider proposals to evolve its market design, including appropriate enhancements to its GHG framework for future consideration by the Commission. As explained in section III.S of this Answer, such future design changes and potential enhancements are beyond the scope of this proceeding and need not be addressed by the Commission.

PG&E supports the use of a GHG reference pass but disagrees with the specific assumptions the CAISO is proposing to use. Specifically, PG&E disagrees with the proposal to create one GHG reference pass for the whole non-GHG area, effectively aggregating those balancing areas into one area.²⁵¹ Six Cities argue that grouping balancing areas outside of GHG regulation areas together for reference pass purposes, rather than basing the GHG reference pass on individual balancing areas, could provide balancing areas outside of a GHG regulation area with preferential access to economic resources.²⁵²

market. Thus, the CAISO's statement provides no reason to mandate an alternative GHG market design.

²⁵¹ PG&E at 12-15.

²⁵² Six Cities at 16-17.

The CAISO believes these criticisms are misplaced. The GHG reference pass should account for economic displacement across the non-GHG area to identify a more optimized counterfactual. This approach leads to a more accurate baseline of available capacity that may receive an attribution to serve demand in the GHG regulation area and reduces the potential for secondary dispatch. The proposed approach mirrors the WEIM counterfactual approved by the Commission that uses base schedules. Base schedules include transfers between balancing areas. A similar approach is justified for an optimized counterfactual in the day-ahead. Moreover, the Commission should reject the claim that the GHG reference pass could create undue discrimination regarding what capacity may serve demand in a GHG regulation area. There will be no undue discrimination under the proposal as filed. Load serving entities within a GHG regulation area may secure capacity outside of a GHG regulation area through forward contracting. If scheduling coordinators register that capacity as committed to demand within the GHG regulation area, the GHG reference pass will not schedule that capacity. It will remain available in the integrated forward market for a full attribution to serve load in the GHG regulation area.

PG&E requests that the Commission direct the CAISO to perform market testing and report its results in a compliance filing and also provide a post-launch plan for monitoring the issues in a compliance filing.²⁵³ Such Commission action is unnecessary. The CAISO will conduct a thorough market simulation with market participants, and report market data through existing reporting and

²⁵³ PG&E at 12, 15.

stakeholder discussion processes. As explained in section III.R.2 of this Answer, the CAISO already engages in ongoing monitoring and reporting on market performance, which monitoring and reporting will include DAME and EDAM. There is no basis for the Commission to require specific reporting in this proceeding.

Vistra argues that the GHG reference pass does not address the issue of allowing resources to be deemed to be delivered to a GHG area regardless of the extent to which they are able to, or did, support these schedules. Vistra argues the GHG reference pass also could undermine state programs and lead to double counting of GHG attributes.²⁵⁴ The Commission should reject these arguments. The GHG reference pass creates a baseline to inform attribution to serve demand in a GHG regulation area and mitigate the potential for secondary dispatch. The Commission has recognized a similar constraint in the WEIM to improve the accuracy of the CAISO's GHG attributions to generation actually dispatched to serve demand in a GHG regulation area.²⁵⁵ These modeling changes addressed the potential for secondary dispatch by reducing GHG attributions to resources that would have generated even without demand in the GHG regulation area, as reflected in WEIM resources' base schedules. The GHG reference pass will achieve a similar result but will reflect actual bids and self-schedules in the day-ahead market. With respect to doubling counting of environmental attributes, neither EDAM nor WEIM make any claims on the

²⁵⁴ Vistra at 47-49.

²⁵⁵ *Cal. Indep. Sys. Operator Corp.*, 165 FERC ¶ 61,050, at P 17.

environmental attributes of energy produced by resources. Any renewable energy credits or other similar credits are tracked and retired outside of markets administered by the CAISO.

Bonneville argues that the Commission should direct the CAISO to update its proposal to minimize secondary dispatch.²⁵⁶ There is no need for such an update. As explained in the August 22 Filing, the requirement to submit a GHG bid adder for a resource to receive an attribution to serve demand in a GHG regulation area, the GHG reference pass, and the GHG net export constraint (discussed further in section III.K.3 of this Answer) mitigate the potential for secondary dispatch. The CAISO intends to continue to discuss with stakeholders how to enhance measures to mitigate the potential for secondary dispatch and further increase the accuracy of attributions to resources outside of a GHG regulation area to serve demand in a GHG regulation area. These discussions will occur in the context of the GHG Coordination Working Groups.

3. The Proposed GHG Net Export Constraint Directly Addresses Stakeholder Concerns Regarding the Current WEIM GHG Accounting Design and Will Further Reduce the Potential for Secondary Dispatch

To address concerns from stakeholders regarding secondary dispatch, the CAISO has proposed to use a GHG net export constraint in the integrated forward market and real-time market to limit the aggregate attribution of GHG transfers to EDAM resources within a specific EDAM entity balancing area. Under this constraint, attributions of GHG transfers to EDAM resources located in

²⁵⁶ Bonneville at 16, 19.

an EDAM balancing authority outside of a GHG regulation area may not exceed the net exports from that EDAM balancing area. The modeling constraint attempts to reflect the use of internal supply in EDAM balancing areas outside of GHG regulation areas to meet native demand. The GHG net export constraint is a severable element from the rest of the proposed GHG modeling framework in this proceeding.

PG&E argues the GHG net export constraint may be unnecessary and could cause inaccurate attributions that result in higher costs because it assumes a net importing balancing area cannot serve GHG load, which could happen due to counterflow, *i.e.*, when an export may be offset by an import.²⁵⁷ Vistra raises similar concerns.²⁵⁸ PG&E also asserts resource-specific constraints that arise from the GHG reference pass or submitted base schedules may make the GHG net export constraint unnecessary.²⁵⁹ Six Cities argue that the GHG net export constraint may result in restrictions on use of resources available in non-GHG areas to serve load in GHG areas.²⁶⁰

The CAISO recognizes that, from a modeling perspective, counterflow can support transfers from a balancing area that exceed the balancing area's net exports. Counterflow could even support deliveries from a balancing area that is a net importer. As explained in the August 22 Filing, the GHG net export constraint helps model a more accurate attribution of available supply within a

²⁵⁷ PG&E at 9-12.

²⁵⁸ Vistra at 49-50.

²⁵⁹ PG&E at 10-12.

²⁶⁰ Six Cities at 17.

balancing area to serve demand in GHG regulation areas. This enhancement will further reduce the potential for secondary dispatch. The Commission has already recognized the use of similar modeling enhancements at a resource level to improve the accuracy of attributions of transfers to serve California demand.²⁶¹ The GHG net export constraint extends the logic of this modeling enhancements to the balancing area level.

PG&E's argument that resource-specific constraints may already adequately mitigate the potential for secondary dispatch will perhaps be true some of the time but will not be true all of the time. For example, a balancing area may have imports that – combined with its internal resources – exceed its internal demand. The GHG reference pass may identify available capacity in that balancing area that could support transfers to serve demand in a GHG regulation area, which may not have been available but for the imports into the balancing area. In addition, the CAISO's design does not apply the GHG net export constraint to capacity committed to serve demand in a GHG regulation area. If capacity outside of a GHG regulation area has a commitment to serve demand in a GHG regulation area, the CAISO will not enforce the GHG net export constraint against this committed capacity, thereby ensuring it may receive an attribution to serve demand in the GHG regulation area. This rule will allow load serving entities with demand in the GHG regulation area to secure that capacity through forward contracting. For these reasons, the Commission should accept the GHG net export constraint notwithstanding the arguments of PG&E, Vistra, and Six

²⁶¹ *Cal. Indep. Sys. Operator Corp.*, 165 FERC ¶ 61,050, at P 17.

Cities. The CAISO commits to review and discuss the performance of the net GHG constraint with stakeholders both in the context of market simulation activities and after EDAM enters production.

DMM supports the overall design of the GHG accounting framework and does not oppose the GHG net export constraint but cautions the CAISO regarding how it implements this constraint in its software.²⁶² Specifically, DMM expresses concerns about the CAISO implementing a dynamic constraint versus a static constraint. A dynamic value would reflect the optimal GHG net transfer capability in the final market run for any given interval. This modeling approach could give rise to non-convexity in the market solution by making attributions that are more economic to serve demand in the GHG regulation area but dispatching uneconomic supply in the non-GHG regulation area to do so. A static value for the GHG net export constraint will reflect the optimal net transfer of the previous iteration of the market run for that interval. The CAISO plans to use a static constraint as part of its initial EDAM implementation and will describe this modeling approach in the applicable BPM.

DMM also asks the CAISO to clarify how it intends to determine the limit for the GHG net export constraint and to revise its proposed tariff language as necessary.²⁶³ For purposes of modeling the net GHG export constraint, the market will use the net energy export transfer from the iteration of the integrated

²⁶² DMM at 31-32.

²⁶³ *Id.* at 34, 38.

forward or real-time market run prior to the run that results in a binding market solution. The CAISO will describe this modeling approach in the applicable BPM.

4. The CAISO Has Initiated GHG Coordination Working Groups to Explore Further Enhancements to its GHG Accounting Design, Data Release, and Transparency of Market Results

As recognized in several parties' comments, the CAISO has initiated an ongoing GHG Coordinating Working Group discussion with stakeholders. This working group stakeholder process focuses on developing durable electricity market solutions for climate policies across the West. The working group structure aims to give stakeholders a more active role in forming problem statements, identifying potential areas for analysis and supporting data, and scoping necessary market rule changes. Working group discussions will help inform the scope of any subsequent formal stakeholder initiative.

PGE states that, while the proposal as filed has successfully incorporated the California and Washington cap-and-trade programs into the WEIM and EDAM market designs, additional work is required to address the needs of capped states without a carbon price, such as Oregon.²⁶⁴ The CAISO agrees, and a GHG Coordination Working Group will take up the discussion of how the EDAM and WEIM market GHG design can support state programs that have capped carbon emissions but not established a carbon price.

PIOs ask the Commission to require the CAISO to report on various elements associated the performance of EDAM and GHG emissions. PIOs

²⁶⁴ PGE at 5-6.

believe that either DMM or the WEIM Governing Body Market Expert should conduct an assessment of deemed resources versus actually delivered resources.²⁶⁵ Commission action on this request is not necessary. The CAISO will discuss the appropriate level of reporting and data transparency in the context of its GHG Coordination Working Groups. The PIOs recognize that these working groups are the appropriate place to discuss the scope and frequency of any reports. The CAISO will also coordinate with DMM or the WEIM Governing Body Market Expert on information needs to undertake assessments of the performance of the GHG market design. The GHG Coordination Working Groups will provide a process for the CAISO and participating stakeholders to resolve issues involving GHG market design enhancements, data transparency, and reporting.

Powerex requests that the Commission direct the CAISO to provide certain high-level data and to publish such data on an ongoing basis, for the purpose of monitoring the CAISO's GHG framework.²⁶⁶ Again, there is no need for any such directive from the Commission. The CAISO will discuss the appropriate level of reporting and data transparency supporting market participant needs in the context of its GHG Coordination Working Groups. In the context of these working group discussions, the CAISO plans to make available a data set reflecting hourly MWh and GHG intensity of attributions to serve California demand for calendar year 2022. In addition to transfers between

²⁶⁵ PIOs at 12-13.

²⁶⁶ Powerex at 18-19.

WEIM entities, this data set will also include hourly MWh and GHG intensity of total system generation, imports, and exports for all WEIM entities. The CAISO will discuss future data releases with the working group and welcomes Powerex's participation.

Vistra and WPTF likewise argue that if the Commission accepts EDAM, it should require periodic reporting specific to GHG issues.²⁶⁷ As explained in section III.R.2 of this Answer, the CAISO already engages in ongoing monitoring and reporting on market performance, which monitoring and reporting will include DAME and EDAM. There is no basis for the Commission to require specific reporting in this proceeding. That said, the GHG Coordination Working Groups will consider the scope of additional data the CAISO should provide on GHG issues as part of its regular efforts to make data available to market participants and other stakeholders.

L. The proposal as Filed Provides for Reasonable Formation of Prices in EDAM

Vistra argues that adopting a balancing area-specific marginal energy cost is a departure from fundamentals of organized electricity markets, ignores the Commission's price formation goals, deprives market participants of the most basic price transparency, and undermines investment in generation and transmission.²⁶⁸ Vistra further claims that the proposal as filed ignores basic price formation requirements required by the Commission in several orders.²⁶⁹

²⁶⁷ Vistra at 52-53; WPTF at 23.

²⁶⁸ Vistra at 6.

²⁶⁹ *Id.* at 50-52.

For the reasons explained in the August 22 Filing, the proposal to derive a marginal energy cost based on the shadow price of the power balance constraint at the optimal solution for each balancing area in the market area is just and reasonable.²⁷⁰

Vistra offers only conclusory claims and fails to explain how the proposal ignores Commission price formation requirements, and the CAISO disagrees that it deprives the market of price transparency. Having a marginal energy cost by balancing area does not eliminate the price signal provided by the LMP. This breakdown, which is essential to account for congestion and transfer revenue by balancing area as explained in the August 22 Filing and section III.N.3 of this Answer, can be used as the reference for the marginal cost of energy. The only change is that the difference between the marginal energy cost of the EDAM/WEIM balancing area and the CAISO balancing area (which is currently the system marginal energy cost) is extracted from the marginal cost of congestion and added to the system marginal energy cost; however, this does not remove the value of this price as a transparent signal. All components of the LMP are published and available to undertake this calculation. If a market participant wants to use the current system marginal energy cost as a price signal, that is published as the marginal energy cost for the CAISO balancing area.

²⁷⁰ See transmittal letter for August 22 Filing at 176-79.

Vistra also quotes isolated statements in Order No. 831, Order No. 844, and a Commission order on price formation it claims supports its position.²⁷¹ As an initial matter, the CAISO notes that these orders discuss markets within the footprint of each ISO and RTO and the specifics of those orders may not apply to markets like EDAM which apply to multiple balancing areas outside an ISO's footprint. More importantly, however, Vistra identifies nothing in the EDAM design that is contrary to the principles in those orders. EDAM will result in energy prices that reflect the marginal costs of energy and provides transparency so that market participants understand how prices reflect the actual marginal cost of serving load and the operational constraints of reliably operating each balancing area.

In addition, the CAISO has further explained the underlying necessity to have a marginal cost of energy for each balancing area in section III.N.3 of this Answer. With the underlying justification and the additional explanation in this Answer, the Commission should accept the proposed price formation changes as an essential element of the CAISO extended market design.

Powerex cites an analysis prepared by Powerex and Public Power Council on fast-start pricing. Powerex claims that ratepayers can be substantially harmed by the CAISO's EDAM, as an extension of its existing market design, which will not incorporate fast-start pricing, nor will it incorporate robust scarcity

²⁷¹ See Vistra at 52 (quoting Order No. 831 at P 4; *Uplift Cost Allocation and Transparency in Mkts. Operated by Reg'l Transmission Orgs. & Indep. Sys. Operators*, Order No. 844, 163 FERC ¶ 61,041, at PP 121 (2018) (Order No. 844); *Price Formation in Energy & Ancillary Servs. Mkts. Operated by Reg'l Transmission Orgs. & Indep. Sys. Operators*, 153 FERC ¶ 61,221, at PP 2, 65 (2015)).

pricing, diverging from other organized markets in the nation and Commission policy.²⁷² As Powerex concedes, this is an element of the CAISO's existing market design, which has been found to be just and reasonable by the Commission. The changes Powerex seeks are therefore beyond the scope of this proceeding.

As noted in the EDAM Final Proposal,²⁷³ the CAISO's Price Formation Initiative is considering a number of topics related to price formation, including scarcity pricing enhancements, fast-start pricing, and potential market power mitigation enhancements. If the scarcity pricing enhancements and fast-start pricing policies are adopted in that stakeholder initiative, they could apply in the day-ahead market across the EDAM footprint. These initiatives and the associated working groups provide ample opportunity for all stakeholders to consider and comment on proposals to address the identified concerns and ultimately propose enhancements for future consideration by the Commission. There is no reason to further consider proposed changes in this proceeding.

M. Other Issues Related to EDAM Day-Ahead Market Activities

1. The EDAM Implementation Appropriately Will Include Local Market Power Mitigation at the Balancing Area Level

DMM states its understanding of the policy in the EDAM Final Proposal is that the CAISO intends to test a non-CAISO EDAM balancing area's power balance constraint in the dynamic competitive path assessment (DCPA) for local

²⁷² Powerex at 16-17.

²⁷³ EDAM Final Proposal at 8.

market power mitigation when the shadow price of the non-CAISO EDAM balancing area's power balance constraint is larger in the positive direction than the shadow price of the CAISO balancing area's power balance constraint. DMM notes that language in new tariff section 33.39 and existing tariff section 39.7 (referenced in tariff section 33.39) may allow balance area-level local market power mitigation to be implemented as intended by the EDAM Final Proposal, but that the CAISO should amend its proposed tariff revisions to effectuate the intended policy, if necessary.²⁷⁴

The DMM comments correctly identify the proposal to apply market power mitigation at the balancing area level for all EDAM balancing areas. Under this model, the CAISO will deem the marginal energy price in the CAISO balancing area as competitive and then apply the DCPA when an EDAM balancing area's marginal energy cost is greater than the CAISO's marginal energy cost. Under this approach, if an EDAM balancing area's marginal energy cost is higher than the CAISO's marginal energy cost, the CAISO will apply the DCPA method to assess whether constraints are competitive, similar to how it performs market power mitigation in the WEIM today. If the DCPA finds the constraints non-competitive, then the market power mitigation process will treat the differential similar to the non-competitive component of the marginal cost of congestion in the CAISO's local market power mitigation process. The CAISO will assess the market power of all resource bids in that EDAM balancing authority above the CAISO marginal energy cost to determine any non-competitive contribution to

²⁷⁴ DMM at 37.

locational marginal prices for resources in that EDAM balancing authority. The CAISO will mitigate the bids of these resources if the net contribution from non-competitive constraints, including the balancing area's power balance constraint, to these resources' locational marginal price is positive. The CAISO will apply a similar process to WEIM balancing areas in the real-time market. The CAISO agrees to augment its description of the market power mitigation process in tariff sections 29.39 and 33.39 as part of any compliance filing if the Commission so directs.

Bonneville believes the CAISO's market power mitigation constructs in tariff section 31.2 fail to adequately recognize or incorporate the physical constraints of cascading hydro operations. Bonneville also expresses concerns with the use of a pivotal supplier test rather than a conduct and impact test to determine market power mitigation, and requests that the Commission assess the CAISO's market power mitigation framework to determine whether it supports transparent price formation.²⁷⁵

Bonneville's comments appear to seek a Commission assessment that exceeds the scope of this proceeding. The Commission does not permit parties to raise issues that go beyond the scope of the specific tariff revisions under review.²⁷⁶ The CAISO is not proposing to revise the fundamental approach to

²⁷⁵ Bonneville at 17, 19.

²⁷⁶ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 143 FERC ¶ 61,276, at P 11 (2013) ("We will not address State Water Project's concerns regarding the cost allocation methodology for ancillary services produced in real-time, as this issue is not before us and thus is outside the scope of this proceeding."); *ISO New Eng. Inc.*, 137 FERC ¶ 61,112, at P 17 (2011) ("To the extent Genco opposes the [existing] Tariff provisions themselves, its arguments are beyond the scope of this proceeding, which is governed by section 205 of the Federal Power Act (FPA)."); *Midwest Indep. Transmission Sys. Operator, Inc.*, 116 FERC ¶ 61,306, at P 28 (2006) ("To the

local market power mitigation set forth its Commission-approved tariff but instead merely to extend the existing market power mitigation that occurs at the balancing area level in the WEIM into the day-ahead time frame. The CAISO plans to discuss potential changes to its market power mitigation rules in the context of its price formation working group and encourages Bonneville to raise its concerns in that venue.

PIOs request clarification regarding what role the WEIM Governing Body Market Expert will have for EDAM.²⁷⁷ New tariff section 33.38 states that DMM has the role of the market monitor for EDAM. In the context of EDAM, the CAISO expects the WEIM Governing Body Market Expert will evaluate various aspects of the EDAM design and advise the WEIM Governing Body.

2. The CAISO Will Work with Stakeholders to Address Any Seams Issues Involving EDAM

Several commenters ask the CAISO to be mindful of potential future market-to-market seams once EDAM is implemented and once other day-ahead markets are developed and implemented in the West.²⁷⁸ Some of these commenters suggests the Commission should emphasize the importance of seams resolution and encourage seams resolution efforts, including the negotiation of seams agreements with the Southwest Power Pool, Inc. (SPP).

extent that [the parties'] concern about problems with management of the queue is a request to address matters other than the proposed tariff revisions, they raise issues beyond the scope of this proceeding.").

²⁷⁷ PIOs at 13.

²⁷⁸ Arizona Utilities at 3, 14-16; Bonneville at 12, 19; Interwest at 5-6, 8; PIOs at 8-9; WAPA at 7.

Consistent with the CAISO's long history of addressing seams issues with neighboring regions, the CAISO remains ready and willing to address seams issues as necessary and appropriate to ensure reliability and efficient market outcomes related to EDAM. To that end, the CAISO has preliminarily engaged with SPP to foster a common understanding of the respective market designs. However, actual seams identification and development of any associated agreement is premature at this stage, because the EDAM design has not yet been approved by the Commission and SPP has not yet filed its Markets+ design for Commission acceptance. As the respective designs are developed, filed, and implemented, and as the market footprints are further defined to identify the topology areas of seams, the CAISO will be in a better position to evaluate the extent and nature of the seams arrangements and engage transparently in further discussions. It would be unnecessary and premature for the Commission to direct the CAISO to engage in further seams efforts unless and until more is understood about the nature and location of potential seams. The CAISO will continue to engage in preliminary discussions and is prepared to address identified seams issues at the appropriate time.

Some commenters suggest the Commission should require the CAISO to report on seams issues with other markets in the West.²⁷⁹ For example, Arizona Utilities suggests the Commission should require the CAISO to report periodically to the Commission on the status and progress of such coordination efforts, and the Commission should identify objectives for those efforts. No special reporting

²⁷⁹ Arizona Utilities at 3, 14-16; see also Interwest at 6, 8.

requirements on seams issues are needed; the CAISO's current and enhanced reporting regime will address any seams issues. As detailed in section III.R.2 of this Answer, the CAISO is engaged in extensive and ongoing reporting of market performance published for all stakeholders to consider. The CAISO fully expects that potential seams issues between EDAM and any other market to be developed in the West will be addressed in this reporting, as well as through an open and transparent stakeholder process. There is no reason for further direction from the Commission at this time.

Arizona Utilities argue that the Commission should evaluate holistically the seams that will arise between transmission service providers' OATTs, market operators' tariffs, and resource adequacy tariffs.²⁸⁰ The CAISO believes such concerns are entirely hypothetical at this point. No commenter has identified specific seams issues involving the tariffs of EDAM transmission service providers; transmission service provider OATT revisions to facilitate participation in EDAM have not yet been developed, much less presented to the Commission. Resolving such hypothetical future seams issues is not required for the Commission to find the EDAM tariff provisions filed in this proceeding to be just and reasonable, and it would be premature to consider the parameters of a future proceeding that may seek resolution of seams.

Interwest states that the Commission cannot reconcile different tariff provisions since it only has the EDAM tariff to review at this time, so the process

²⁸⁰ Arizona Utilities at 16.

for continued review and improvement will be important to EDAM's overall success.²⁸¹ As explained in section III.F and elsewhere in this Answer, the CAISO expects that EDAM transmission service providers will generally follow a similar path as others in developing OATT revisions and will consider transmission service provider-specific OATT deviations only as appropriate to account for their unique circumstances. The CAISO's experience with OATT revisions to facilitate participation in the WEIM provides strong evidence that this path is likely. In any event, the CAISO embraces the objective of consistency across the EDAM area and will engage with its partners and stakeholders to that end.

Interwest also argues that the Commission should require the establishment of an ongoing committee for EDAM with each market with which it shares a seam to review impediments to market flows and just and reasonable rates.²⁸² As explained in section III.R.2 of this Answer, the various engagement mechanisms established for the WEIM will be extended to address matters associated with EDAM, including joint governance, the Regional Issues Forums, and the body of state regulators. No additional governance committees are required for open and transparent operation of EDAM; however, as explained in this Answer, the CAISO will deeply engage in overall monitoring, reporting, evaluation, and enhancements to the market through collaborative regional forums and ongoing dialogue.

²⁸¹ Interwest at 5.

²⁸² *Id.* at 6, 8.

Bonneville recommends that the Commission emphasize the importance of the CAISO developing an effective strategy for addressing market-to-market seams issues.²⁸³ The CAISO respects the Commission's authority to direct action if the CAISO fails to timely act to address seams issues once future markets are developed and the geographic scope of any market intersection with EDAM is better understood. Again, however, it would be unnecessary and premature for the Commission to direct the CAISO to engage in further seams efforts unless and until more is understood about potential seams.

3. The CAISO Will Work With Stakeholders to Address Any Electric-Gas Coordination Issues

Arizona Utilities request that the Commission direct the CAISO to take additional steps to mitigate potential natural gas coordination challenges in a broader EDAM. Specifically, they request direction for the CAISO to (1) align the gas and electric market timelines, (2) in the alternative, provide EDAM participants with notification of estimated natural gas volume necessary to support day-ahead market awards, and (3) make the reference level changes process more user friendly.²⁸⁴

These issues are actively being discussed in the CAISO stakeholder working group on Gas Resource Coordination, which was launched in August 2023 and meets at least monthly to understand the different and varied challenges faced across diverse gas systems in the West. The understandings

²⁸³ Bonneville at 12, 19.

²⁸⁴ Arizona Utilities at 2-3, 9-13.

of this working group will help inform consideration of potential enhancements to the existing design regarding gas resource management in the CAISO markets.

Arizona Utilities have been active participants in these working groups and have identified these and similar topics for broader stakeholder consideration and discussion. The topics that Arizona Utilities raise are not unique challenges to the CAISO, but are topics and challenges faced by other ISOs and RTOs across the country. Any changes on these topics will require careful consideration of impacts on other processes and the diversity of market participants, with the stakeholder process providing the appropriate forum to fully evaluate these topics and develop enhancements that may be filed with the Commission in the future.

Requesting that the Commission direct the CAISO to adopt the undeveloped concepts put forward by Arizona Utilities now, rather than developing proposals for consideration by the Commission through the CAISO's ongoing stakeholder efforts, is not necessary for the Commission to find the EDAM proposal just and reasonable. Indeed, extending the CAISO's existing process at the outset of EDAM is a reasonable starting point. Moreover, it would be premature to circumvent the stakeholder process for carefully discussing any potential gas management market enhancements.

The CAISO appreciates the importance of these concerns and assures the Commission that Arizona Utilities will have a full opportunity to continue participation in the stakeholder process and ultimately comment substantively and specifically on any proposed gas management changes if and when these are filed with the Commission. This is the appropriate process to follow, and the

Commission should deny any requests by Arizona Utilities for specific directives in this proceeding.

N. Issues Related to EDAM Post-Market Processes and Outputs

1. The Proposal as Filed for Transmission Revenue Recovery Is Just and Reasonable

Several commenters raise issues regarding the proposal for transmission revenue recovery under EDAM, in particular the new EDAM access charge.²⁸⁵ As explained in the August 22 Filing, the EDAM access charge will protect EDAM transmission owners against the risk of revenue shortfalls at the outset of their participation in EDAM.²⁸⁶

Comments on the EDAM access charge demonstrate that the proposal as filed is well balanced and prudent. Commenters generally supported the EDAM access charge, with some commenters arguing it is critical to EDAM,²⁸⁷ and others arguing that parties should monitor the EDAM access charge for potential cost shifts.²⁸⁸ Although the CAISO does not believe it should change its proposal, the comments have given the CAISO a renewed appreciation of the importance of the EDAM access charge to all interested balancing authorities, particularly those with more significant volumes of wheeling through transactions.

Specifically, PacifiCorp expressed some concern about its potential EDAM access charges in the early phase of EDAM and asks for a cap on charges for

²⁸⁵ Bonneville at 13; Idaho Power at 5-6; PacifiCorp at 18-20; SCE at 3, 8-9; Tri-State at 4.

²⁸⁶ Transmittal letter for August 22 Filing at 180-85.

²⁸⁷ Idaho Power at 5-6; NV Energy at 14.

²⁸⁸ PacifiCorp at 18-20; SCE at 3, 8-9; Six Cities at 11-13.

some period of time.²⁸⁹ The CAISO agrees with PacifiCorp and other commenters that it will be critical for the CAISO and stakeholders to evaluate and monitor the implementation of the EDAM access charge to ensure all costs and benefits align appropriately, *i.e.*, consistent with the principle that a prospective EDAM balancing authority area's transmission revenue recovery under EDAM should be consistent with historical revenue recovery. This will be true both at the outset of EDAM and as each new transmission provider joins it, and should be confirmed before the initial implementation of EDAM based on information that will only be available closer in time due to the requisite three years of historical information. The CAISO believes that any enhancements should be based on empirical data gathered as the EDAM transmission owners identify the costs that would go into the EDAM access charge, and on analysis of how the EDAM access charge allocates those costs to EDAM participants. As the CAISO stated in the August 22 Filing and the EDAM stakeholder process, the CAISO is committed to regular reviews of the EDAM access charge to ensure benefits and costs remain properly aligned with its design principles, and now recognizes an initial assessment would also be prudent. Just like with the CAISO's existing access charges, the CAISO will require transparency so stakeholders, regulators, and ratepayer advocates can monitor the EDAM access charge to ensure its operation is just and reasonable.

Given the critical nature of this element to the overall design, the support from commenters, and the desire for ongoing consideration by interested

²⁸⁹ PacifiCorp at 18-20.

participants, the CAISO will promptly engage with its partners and stakeholders following acceptance by the Commission to review the application of the EDAM access charge based on the initial EDAM participants. Based on the results of the review, the CAISO will consider, develop, and propose any revisions necessary to ensure the EDAM access charge will be equitable when implemented consistent with its design principles. To the extent the CAISO and stakeholders identify prudent enhancements to the EDAM access charge, the CAISO will submit them in a future tariff filing sufficiently in advance of go-live that the first tier of participants have comfort in the approach through their preparations to participate in EDAM. In the event no change is proposed, the CAISO commits to submission of an informational filing on the same time frame that presents the results from this evaluation, including an explanation for why no tariff change was made. The CAISO believes its commitment to assess empirical data prior to implementation of EDAM and propose a change if necessary should alleviate the need to further consider PacifiCorp's request that the Commission adopt a cap in this proceeding. In the meantime, the EDAM access charge proposal is just and reasonable and provides a basis upon which this evaluation can occur.

Bonneville requests that the CAISO clarify that the EDAM access charge "only applies to transmission made available to the EDAM by a transmission service provider and not to firm transmission rights holders," and clarify "how each transmission service provider will be compensated as the EDAM footprint

expands.”²⁹⁰ As explained in the August 22 Filing, the EDAM access charge will collect costs due to foregone historical transmission revenues that resulted from joining EDAM. The CAISO will then assess the EDAM access charge to the gross load of each EDAM balancing area.²⁹¹ The EDAM access charge will not be per-market transaction charge, so as to differentiate self-scheduled exercise of OATT rights and exclude them from application of the charge. Gross load represents end-use customer demand, accounting for distribution losses and demand served by exported behind-the-meter generation. The EDAM access charge is designed to operate efficiently regardless of the geographic area or years of operation of EDAM; however, the CAISO agrees that it will be critical for the CAISO and stakeholders to monitor the EDAM access charge as EDAM operates and expands and affirms its commitment to do so.

2. The Proposal as Filed for EDAM Settlements Is Just and Reasonable

WAPA argues that the CAISO should provide all data elements that are used by the CAISO to calculate the settlement charges and payments to allow EDAM entities and sub-entities to perform sub-allocation and validation.²⁹² The CAISO is committed to providing participating EDAM balancing authorities with the necessary transparency to settle all EDAM and WEIM transactions within their respective balancing areas, including the associated sub-allocation required pursuant to their OATTs. However, it will be incumbent upon each EDAM

²⁹⁰ Bonneville at 13.

²⁹¹ Transmittal letter for August 22 Filing at 182-84.

²⁹² WAPA at 7.

balancing authority to provide its customers with the ability to see the appropriate information so that the customer can verify the charges and sub-allocate further any charges to their transmission customers. The CAISO will coordinate with each EDAM balancing authority through the EDAM implementation process to ensure unique issues related to specific circumstances are considered and addressed.

3. The Proposal as Filed on Transfer and Congestion Revenue Allocation Is Just and Reasonable

Powerex states the CAISO acknowledges that, in the WEIM to date, interties involving the CAISO balancing area are modeled in a way that leads to congestion revenue that will be entirely allocated to the CAISO and its ratepayers, whereas interties involving only WEIM entities (and not the CAISO balancing area) have been modeled in a way that leads to an equitable 50/50 allocation of transfer revenue. Powerex argues this benefits California interests at the direct expense of transmission customers that fund the non-CAISO facilities.²⁹³

These Powerex comments ignore the fact that the CAISO's cost allocation approach appropriately assigns congestion revenues entirely within the balancing area where the constraint is modeled, and appropriately includes accounting for transfer revenue. Therefore, the change satisfies the principle of cost causation under Commission and court precedent and is just and reasonable.²⁹⁴ Insofar as

²⁹³ Powerex at 19-20.

²⁹⁴ See the discussion regarding the principle of cost causation in section III.D.1 of this Answer.

Powerex is objecting to the allocation of congestion revenue under the WEIM design, its comments are beyond the scope of this DAME-EDAM proceeding.

The EDAM design does not require consolidation of balancing areas or transmission services. Each EDAM balancing authority that decides to participate does so with the understanding that transmission service providers in its balancing area will maintain OATT services and receive separate balancing area settlement. The transfer and congestion revenue accounting mechanisms proposed in the August 22 Filing are founded upon these principles and provide an efficient breakdown and allocation of these costs, without requiring a structural change to consolidated balancing areas or a combination of balancing area settlement. The marginal energy component of the LMP supports this breakdown. As explained in the August 22 Filing²⁹⁵ and in this section III.N.3 of the Answer, the transfer and congestion revenue allocation and supporting revisions to the formation of the LMP are just and reasonable.

The market optimization will consider resource bids and resource constraints, as well as internal and external transmission constraints, including scheduling limits. In determining the optimal schedule and dispatch, the market will perform congestion management within a balancing area as well as between balancing areas. This congestion management results in the collection of congestion revenue from binding constraints within a balancing area as well as transfer revenue from binding constraints between balancing areas. At interfaces that contain transmission both from and to a balancing area outside of the

²⁹⁵ See transmittal letter for August 22 Filing at 176-79, 185-92.

EDAM/WEIM balancing area, as well as transmission between EDAM/WEIM balancing areas, the market will optimize the use of the total interface of available transmission between intertie schedules and economic transfers based upon the bids supporting the intertie and transfer schedules. As part of the optimization of the interfaces, the market will perform congestion management at these interface locations and all the supporting bids.

Importantly, the market is co-optimizing all the available transmission at these interfaces and performing congestion management on the interface as a whole, considering internal and external constraints equally. The resulting congestion management solution can result in the collection of congestion revenue and/or transfer revenue at these interfaces based optimal use of the transmission. Any congestion revenue and transfer revenue collected at these interfaces is distributed to the appropriate balancing authority based upon the balancing area relationship to the binding constraints.

The EDAM design, including modification of the WEIM to align with the EDAM design, provides participants with a clear representation of congestion management of internal binding constraints as well as binding scheduling constraints between balancing areas. As explained above, the management of internal constraints will result in collection of congestion revenue that would be available to manage participants exposure for using internal transmission purchased. For the CAISO balancing area, EDAM congestion revenue provides participants the ability to manage their exposure through the CRR mechanism. For EDAM/WEIM balancing areas, the congestion revenue is paid to the

EDAM/WEIM balancing authority, so that they can extend the congestion hedge to balancing area customers pursuant to their OATTs.

Transfer revenue, on the other hand, is generated from congestion management of transmission scheduled or released to the market between balancing areas. Similar to congestion revenue, transfer revenue should be used to compensate transmission customers, including the transmission service provider, for releasing the transmission to the market as well as managing costs associated with energy schedules between balancing areas. Accordingly, the EDAM proposal enables all participating balancing authorities to ensure that participants have the appropriate opportunity to manage congestion exposure.

If, on the other hand, the EDAM design were to maintain the current WEIM congestion distribution structure, participants would not receive the appropriate opportunity manage congestion costs associated with scheduled energy within a balancing area (congestion revenue) as well as across balancing areas (transfer revenue). The current WEIM model is based upon the concept that only the balancing authority will release transmission to the market, and the balancing area would compensate participants who pay for the transmission through the real-time congestion offset distribution. EDAM is a superior – and therefore a just and reasonable – design for ensuring that EDAM balancing area participants have the opportunity to manage congestion costs for energy scheduled or dispatched in the market, as well as providing a compensation mechanism to offset transmission released to the market.

WAPA argues it is uncertain whether the tariff language on receipt of transfer and congestion revenue makes it possible for WAPA to receive revenue that can adequately meet the revenue requirements in proportion to the transmission capacity taken by the market.²⁹⁶ As explained in the August 22 Filing and section III.N.1 of this Answer, the EDAM access charge mechanism is designed to provide balancing authorities participating in EDAM the ability to recover short-term transmission sales that are foregone because of participation in EDAM. This mechanism also allows for recovery of long-term transmission investment, because the revenue requirement should reflect the current year transmission rates. Further, the transfer and congestion revenue recovery and allocation proposal explained in the August 22 Filing and above in this section of the Answer provide for accurate accounting of congestion costs and transfer revenues. These mechanisms provide for allocation to the appropriate party – either the balancing authority for further allocation in accordance with its tariff or directly to the transmission customer. WAPA will need to evaluate the sufficiency of these revenue streams in coordination with its balancing authority. Accordingly, the CAISO will continue to consider what it can do to support WAPA through the implementation process. In the meantime, the CAISO’s transmission revenue mechanisms will remain just and reasonable.

WAPA also argues that when both WAPA and the CAISO charge losses independently, there is a potential conflict in transmission loss accounting for transmission facilities inside WAPA (or BANC for the Sierra Nevada Region

²⁹⁶ WAPA at 5.

(SNR)). WAPA requests that, as a federal power marketing agency, it be granted an exemption to maintain its current transmission loss accounting approach.²⁹⁷

The CAISO does not believe this filing forecloses the possibility that there may be grounds for the Commission to find that the CAISO should exempt WAPA from the marginal loss construct it will administer as part of EDAM. However, making that determination in this proceeding is not necessary. The CAISO has engaged with WAPA concerning the fixed-loss accounting mechanism explained in its comments and concerning how WAPA could account for fixed losses within the context of the CAISO's marginal loss construct. The CAISO believes these discussions should continue and any special arrangements should be considered as part of entities' participation agreements, which would be filed with the Commission if it were non-conforming. In the meantime, the CAISO's marginal loss construct remains just and reasonable.

In addition, WAPA states it may need to negotiate additional terms to allow it to meet its statutory load obligations. WAPA requests the highest market scheduling priority and an exemption from congestion costs when WAPA uses its transmission to serve its project use loads.²⁹⁸

As explained in the August 22 Filing and section III.G of this Answer, the EDAM transmission availability framework provides mechanisms that appropriately account for the rights associated with EDAM legacy contracts,

²⁹⁷ WAPA at 5-6.

²⁹⁸ *Id.* at 6.

ownership rights, and OATT rights. The CAISO is continues to remain open on this issue as it engages in further discussions with WAPA to understand this concern, and will continue to consider what it can do to support WAPA's compliance with its statutory federal obligations through the implementation process, including consideration of an exception that can be justified. However, the EDAM transmission availability framework remains just and reasonable and should be accepted without exception.

O. The CAISO Will Implement EDAM So as to Accommodate Its Participants

WAPA raises the entity-specific issues discussed in section III.N.3 of this Answer. Bonneville requests that the Commission require coordination between the CAISO, participating balancing authorities, and adjacent non-participating balancing authorities and transmission service providers to coordinate and manage market impacts. Bonneville also requests that the Commission require that the Coordinated Transmission Agreement (CTA) between Bonneville and the CAISO be renegotiated to account for EDAM prior to the start of EDAM operations.²⁹⁹

Bonneville and WAPA raise issues that are specific to entities like themselves and do not concern the EDAM design. These issues are thus beyond the scope of this proceeding on the CAISO's tariff revisions but instead concern how EDAM will be implemented with such entities as participants. As part of EDAM implementation, the CAISO will work with each participant to reach

²⁹⁹ Bonneville at 11-12, 19.

agreements that ensure smooth onboarding. Such agreements (or amendments to existing agreements) will be filed for Commission acceptance if they are jurisdictional and do not conform to a *pro forma* agreement the Commission has already accepted.

To take one example, the CAISO is committed to working with Bonneville to resolve any concerns and amend the Coordinated Transmission Agreement (CTA) as appropriate to account for the implementation of EDAM. Over the years since the acceptance of the CTA by the Commission, the CAISO and Bonneville have engaged in regular meetings as contemplated by the CTA and made numerous revisions to its schedules as necessary to accommodate new participants in the WEIM and updated data needs of Bonneville, and to account for other changes on the Bonneville system. The CAISO would anticipate working with Bonneville on the CTA through a similar process as EDAM develops to consider matters of interest to Bonneville and the EDAM participants that depend on Bonneville for transmission service. It is not necessary for the Commission to require coordination that the CAISO is already committed to, particularly when the CAISO and Bonneville have a demonstrated record of coordination and collaboration on similar matters associated with the WEIM.

P. There Is No Need at This Time to Support Inter-Scheduling Coordinator Trades in the EDAM Design

As discussed in the August 22 Filing, it is unnecessary to support inter-scheduling coordinator trades in the EDAM design at this time, but the CAISO will discuss it with stakeholders as a possible future EDAM design enhancement (which is beyond the scope of this DAME-EDAM tariff amendment

proceeding).³⁰⁰ Thus, contrary to the arguments of ACP and AEU, there is no need for Commission action on this issue.³⁰¹ The CAISO will consider this functionality as part of its overall commitment to consider and prioritize enhancements to DAME and EDAM based on operational experience.³⁰²

Q. Other Requested Clarifications and Minor Tariff Revisions Related to DAME and EDAM

1. ACP and Shell Energy

ACP and Shell Energy argue that the issues discussed below in this section III.Q.1 of the Answer should be addressed in this proceeding for market-wide consistency. As explained below, the CAISO provides its responses and explains that the Commission should reject any requests or suggestions indicating that the EDAM market design is not just and reasonable. As discussed in the August 22 Filing and this Answer, all elements of the market design are just and reasonable as proposed. Moreover, the CAISO has emphasized repeatedly in the EDAM stakeholder process, the August 22 Filing, and this Answer its commitment to continued evolution and enhancement of the EDAM market design. The CAISO nonetheless offers some response to each of the issues identified by ACP and Shell Energy.

ACP and Shell Energy contend that new tariff section 33.4.1(g) leaves open the possibility of different resource eligibility rules within the EDAM footprint on an entity-by-entity basis.³⁰³ The CAISO will support participation by any

³⁰⁰ Transmittal letter for August 22 Filing at 194-95.

³⁰¹ See ACP at 12-13; AEU at 7.

³⁰² See section III.S of this Answer.

³⁰³ ACP at 5; Shell Energy at 8.

resource type supported by its tariff rules. However, it remains the responsibility of each EDAM balancing area to determine which resource types it can support. This is consistent with the WEIM approach. More information concerning these implementation details will be addressed in the EDAM transmission service provider tariff development processes, which will give all interested stakeholders an opportunity to participate to protect against the possibility of varying resource eligibility rules.

ACP and Shell Energy also contend that new tariff section 33.23 creates the potential for significantly different transmission cost applications for resources in different EDAM transmission service provider footprints.³⁰⁴ The CAISO disagrees. The EDAM design seeks to apply the lowest-granularity firm rate, depending on whether an EDAM transmission service provider offers hourly or daily service. If it offers hourly service, the hourly rate will apply if real-time market dispatch exceeds the reserved transmission rights. If daily firm service is the lowest granularity, the firm rate will be based on the highest hourly dispatch across the day compared to rights held. These rates will apply pursuant to the EDAM transmission service provider tariff. Today, entities determine the granularity of service they have to reserve based on products offered, and they may be exposed to different costs and risk. The same will be true under EDAM.

ACP and Shell Energy argue that all transmission that is made available to the market through new tariff section 33.18.2.1 will have congestion or transfer

³⁰⁴ ACP at 5-6; Shell Energy at 8.

revenues settled through the EDAM entity, in an as-yet-to-be-determined manner, which may vary from one EDAM entity to another.³⁰⁵ This is not a new concept. Participants in the WEIM provide mechanisms to distribute congestion offset costs and the CAISO tariff does not prescribe a method. Experience with the WEIM has indicated that entities participate and follow each other's processes, building upon Commission-approved approaches as entities join. This has led to fairly aligned mechanisms in many areas, and the CAISO would expect similar outcomes for EDAM. Further, as explained above, the proposal as filed on transfer and congestion revenue allocation is just and reasonable.³⁰⁶

ACP and Shell Energy argue that EDAM does not allow non-source-specific, non-contracted supply to self-schedule or to economically bid into the market at EDAM external interties, unless economic bidding has been enabled by the EDAM entity under existing tariff section 29.34(i)(2).³⁰⁷ Again, this is not a new concept. As in the WEIM today, economic participation at external interties is left open as an option for each balancing area to determine. As explained in the August 22 Filing, such participation can introduce operational risk that non-specific supply, without a contractual relationship to deliver to the balancing area, may not be deliverable, can displace other supply, and can force the balancing authority to replace the supply in real-time.³⁰⁸ With operational experience, the CAISO will consider enhancements with EDAM participants and interested

³⁰⁵ ACP at 6; Shell Energy at 9.

³⁰⁶ See section III.N.3 of this Answer.

³⁰⁷ ACP at 6; Shell Energy at 9.

³⁰⁸ Transmittal letter for August 22 Filing at 156, 159-60.

stakeholders to evaluate enhancements to the external resource participation rules proposed in this proceeding.

ACP requests that the Commission direct the CAISO, as part of a year-one EDAM enhancements initiative, to evaluate a policy provision included in the EDAM Final Proposal but not in the proposed EDAM tariff language. Specifically, the EDAM Final Proposal included a proposal that EDAM transmission service providers will, “to the extent feasible,” hold all firm point-to-point and network integration transmission service customers harmless from the EDAM transfer and congestion costs incurred in scheduling on transmission rights between the EDAM scheduling deadline and real-time.³⁰⁹ The CAISO acknowledges this was an important element of the design developed through the EDAM Final Proposal. However, the CAISO tariff should not prescribe what the Commission may determine as just and reasonable accounting of transmission services and the associated revenues and costs to be proposed by an EDAM transmission service provider. Further, the CAISO is unable to track or account for discrete costs caused by the exercise of firm transmission rights, making it unreasonable to include such a requirement in its tariff. Nevertheless, the CAISO will engage with EDAM participants to understand revenue and cost allocations associated with the EDAM design and provide feedback and input throughout the EDAM transmission service provider tariff development process as appropriate in that context.

2. Six Cities

³⁰⁹ ACP at 7 (citing EDAM Final Proposal at 42, 44).

Six Cities request clarification or modification of certain tariff provisions. Below the CAISO responds to each of the requests with an explanation, clarification, or a commitment to modify if applicable.

Six Cities state that in the fourth line of new tariff section 33.4.1, the work “disable” should be changed to “enable” or “implement.”³¹⁰ The CAISO agrees this should be corrected on compliance in this proceeding.

Six Cities suggest that termination of an EDAM Addendum to EIM Participating Resource Agreement (contained in new tariff appendix B.29) should be conditioned on termination of the relevant EDAM entity’s participation in EDAM.³¹¹ The CAISO agrees with this comment and proposes to include, in a filing to comply with the Commission’s order in this proceeding, language in section 4 of the EDAM Addendum to EIM Participating Resource Agreement stating that the agreement will terminate should the relevant EDAM entity cease its participation in EDAM.

Six Cities also comment that section 3.2.2 of the EDAM Load Serving Entity Agreement (contained in new tariff appendix B.32) should include language that allows the EDAM load serving entity to terminate the agreement upon termination of the relevant EDAM entity’s participation in EDAM or assumption of responsibility for scheduling the relevant load by some other qualified entity.³¹² The CAISO believes no change is needed, because section 3.2.1 of the EDAM Load Serving Entity Agreement already allows the CAISO to

³¹⁰ Six Cities at 18.

³¹¹ *Id.* at 18-19.

³¹² *Id.* at 19.

terminate the agreement should the relevant EDAM entity cease its participation in EDAM.

Six Cities ask whether the phrase “Imbalance Reserves, Reliability Capacity” should be inserted in the third line after “Energy” in new tariff section 4.9.5.³¹³ The CAISO agrees this should be corrected on compliance in this proceeding.

Six Cities state that, in new tariff section 33.11.3.2, the cross-reference in the second line to tariff section 11.2.1.1.2 appears to be incorrect, as Six Cities have been unable to locate any such tariff section.³¹⁴ The CAISO agrees the cross-reference is incorrect and should be to tariff section 11.2.1.1. The CAISO further agrees this should be corrected on compliance in this proceeding.

Six Cities state that in the third line of new tariff section 33.18.5, it appears that the cross-reference should be to section 33.27.4.³¹⁵ The CAISO agrees this should be corrected on compliance.

Six Cities state that in the second line of new tariff section 33.31.1.2.1.2, there is an administrative error in the cross-reference.³¹⁶ The CAISO agrees and, upon approval, will correct the error to remove the erroneous reference to

³¹³ *Id.*

³¹⁴ *Id.*

³¹⁵ *Id.*

³¹⁶ *Id.*

tariff section 33.31.3 and replace it with the correct reference to tariff section 31.3.1.³¹⁷

Six Cities state that in the tenth line of new tariff section 33.31.1.6, the phrase “will be” should be changed to “will not be.”³¹⁸ The CAISO agrees this should be corrected on compliance.

Lastly, Six Cities request clarification of the nature and purpose of the following language in the fifth through seventh lines of new tariff section 33.31.2.4, as it relates to tariff section 31.5: “except that a reference to the CAISO Forecast of BAA Demand for the CAISO refers to the total CAISO Forecast of BAA Demand for all Balancing Authority Areas across the EDAM Area.”³¹⁹ Tariff section 31.5 is drafted to apply only to the CAISO balancing area, so it only refers to the forecasted demand in the CAISO balancing area. The purpose of the phrase in question is to clarify that the RUC process in EDAM will target the forecasted demand across the EDAM area rather than just the forecasted demand in the CAISO balancing area.

R. Commenters’ Requested Additional Procedures Related to DAME and EDAM Are Unnecessary

1. No Technical Conference or Hearing Is Needed

Tri-State argues that the Commission should hold a technical conference or hearing to address issues not sufficiently developed in the DAME-EDAM

³¹⁷ For the avoidance of doubt, the appropriate cross-reference is to tariff section 31.3.1.6.1 and not to tariff section 33.31.1.3.2. *Compare* Six Cities at 19.

³¹⁸ *Id.* at 20.

³¹⁹ *Id.*

proposal.³²⁰ The Commission should deny this request. Tri-State provides no support for the notion that merely because a proposal may be significant or complex, it follows that the Commission should establish a hearing or technical conference. In the instant case, there have already been years of thorough stakeholder processes to develop DAME and EDAM, as many commenters note, with extensive engagement, coordination, and collaboration along the way.³²¹ The August 22 Filing and this Answer provide a complete record for the Commission to find the DAME and EDAM tariff revisions are just and reasonable. The Commission has rejected requests in other ISO/RTO proceedings for unnecessary technical conferences and hearings where the underlying stakeholder process was robust,³²² and should do the same here.

2. No Additional DAME-Specific and EDAM-Specific Monitoring Measures or Commission Reporting Requirements Are Needed

A number of commenters request that the CAISO be required to establish DAME-specific or EDAM-specific monitoring measures or reporting.³²³ There is no need for the Commission to impose such a requirement because the CAISO

³²⁰ Tri-State at 3.

³²¹ See, e.g., ACP at 2; AEP at 2; Idaho Power at 1; NV Energy at 1; PIOs at 2; SCE at 2; Six Cities at 2; WAPA at 4.

³²² See, e.g., *Cal. Indep. Sys. Operator Corp.*, 120 FERC ¶ 61,023, at P 226 (2007) (finding that “a hearing is not necessary because it would not add value to the record on this issue” regarding tariff revisions); *Midwest Indep. Transmission Sys. Operator, Inc.*, 117 FERC ¶ 61,325, at P 89 (2006) (“The Commission finds that Midwest ISO has taken adequate measures to ensure that stakeholders have had ample opportunities to discuss and contribute to the proposed revisions through a variety of forums. . . . Accordingly, the Commission finds that these forums provided sufficient opportunity for stakeholder participation and therefore rejects protestors’ requests to hold an additional stakeholder process or technical conference.”).

³²³ See, e.g., ACP at 8-12; CalCCA at 2-4; PIOs at 6; Six Cities at 12-15; Tri-State at 4; Vistra at 2, 32-33, 52-55; WPTF at 22-24. The CAISO also addresses some of these requests in preceding sections of this Answer.

has committed to enhancing and expanding its existing monitoring and reporting regime to cover DAME and EDAM market performance-related issues. As discussed in greater detail below in this section III.R.2 of this Answer, the CAISO is committed to working with its stakeholders and partners to ensure market participants are informed about the operation of the markets, have an opportunity to understand the information through engagement with CAISO subject matter experts, and are able to present their concerns in a collaborative and constructive forum. In these circumstances, the Commission should not impose additional monitoring or reporting obligations.³²⁴

Engaging directly with all interested stakeholders to develop and evolve the scope, frequency, and format of reporting is preferable to a reporting obligation imposed by the Commission. Reporting requirements may be duplicative of reports presented to stakeholders and often become outdated or stagnant as the reporting obligation continues beyond the identified concern. As explained below and elsewhere in this Answer, the CAISO will engage with all

³²⁴ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 175 FERC ¶ 61,160, at P 27 (2021) (“Moreover, CAISO and DMM already perform monitoring and analysis of market results, and we expect that these analyses would include the use and impact of this payment rule.”); *id.* at P 36 (“Finally, we decline Calpine’s request that the Commission direct CAISO to submit an informational filing on the issue of RDRR migration to the hourly block bid option. As CAISO notes, both it and DMM consistently monitor and audit demand response providers, and CAISO also regularly discusses market performance issues with its stakeholders.”); *Cal. Indep. Sys. Operator Corp.*, 170 FERC ¶ 61,069, at P 19 (2020) (internal citation omitted) (“Finally, we decline to adopt PG&E’s recommendation for annual reporting by CAISO. In light of the information on released transmission capacity available through CAISO’s OASIS, we find no need for CAISO to file similar information with the Commission.”); *Cal. Indep. Sys. Operator Corp.*, 129 FERC ¶ 61,186, at P 7 (2009) (“[W]e will not impose any additional reporting burden on the CAISO department of market monitoring. We would expect the CAISO department of market monitoring to expeditiously report any problems related to the tariff revisions accepted here in its normal reporting processes, consistent with the obligations of the CAISO department of market monitoring under Order 719.”).

interested market participants and stakeholders to focus its resources on what concerns them the most and where reporting can add the most value.

With regard to the specifics of the CAISO's current monitoring and reporting regime, over the years the CAISO has refined and optimized its processes and tasks to effectively and comprehensively monitor and assess its market performance in a timely manner.

The CAISO has established a core process for market quality and validation. This process is conducted by a specialized team that conducts daily assessments of the accuracy and quality of market solutions across various markets and their components. All prices and schedules undergo validation within a deadline defined by the tariff. In cases where issues are identified, corrective measures are promptly taken to rectify prices. Moreover, this process identifies and implements corrective actions to address underlying causes.

In addition, the CAISO allocates dedicated resources to evaluate the overall market performance, including the effectiveness of new features and functionalities integrated into the market system. For each new functionality introduced, the CAISO conducts a thorough performance assessment to ensure it operates as intended and to pinpoint any gaps or issues that require attention.

As part of its regular market performance activities, the CAISO routinely releases a range of public reports. These encompass daily market watches, greenhouse gas emission reports, biweekly performance reports, weekly price correction reports, monthly performance reports, resource adequacy monthly reports, ancillary service scarcity reports, WEIM benefit reports, and

Commission-mandated reports pertaining to exceptional dispatches, market disruptions, gas coordination, WEIM onboarded entities, and readiness criteria for newly on-boarded entities. Moreover, the CAISO issues ad hoc reports to offer the market assessments on timely topics of interest.³²⁵

Regarding recent initiatives, the CAISO has introduced daily storage resource reports to enhance transparency regarding how the CAISO markets are deploying storage resources. Additionally, during the summer months, the CAISO releases day-ahead supply conditions reports to provide a reference for conditions projected from the day-ahead market. Recognizing the heightened interest in market performance during these months, the CAISO has taken a proactive approach by issuing customized monthly performance reports. These reports serve to communicate market performance alongside a series of policy enhancements developed as part of the summer readiness initiative. These enhancements encompass areas such as export priorities, resource performance, resource sufficiency evaluation, market supply shortfalls, storage resources, and scarcity pricing, among others.

Furthermore, the CAISO regularly issues ad hoc reports pertaining to specific topics or newly implemented policies. These reports serve the dual purpose of evaluating performance and supporting ongoing policy development efforts. The CAISO keeps the markets regularly informed about both existing and newly introduced market features through its quarterly Market Performance

³²⁵ See, for example, the reports available on the CAISO website at <http://www.aiso.com/market/Pages/ReportsBulletins/Default.aspx> and <http://www.aiso.com/market/Pages/MarketMonitoring/Default.aspx>.

and Planning Forum.³²⁶ For example, in recent forums, there has been a detailed performance analysis of the newly implemented FRP. Additionally, the CAISO conducts assessments of the performance of newly implemented policies, reporting to the Market Surveillance Committee.³²⁷ Furthermore, briefings on the benefits of the WEIM are presented to the WEIM Governing Body, and performance reports are shared with the CAISO Governing Board.³²⁸

These dedicated efforts for monitoring and analyzing market performance, along with the evaluation of newly implemented policies, are complemented by a deliberate endeavor to make data related to these initiatives and market features publicly available. The CAISO's systems, such as its Same-Time Open Access Information System (OASIS), which provides information publicly, and its Customer Market Results Interface (CMRI), which makes resource-specific information available, furnish participants and the broader market with an additional resource for monitoring market activities.

Over and above all of these existing monitoring and reporting measures the CAISO employs, in response to commenters' requests for specific monitoring and reporting activities for EDAM and DAME, the CAISO is dedicated to enhancing and extending its existing efforts to ensure proper monitoring and

³²⁶ See <http://www.caiso.com/Pages/DocumentsByGroup.aspx?Group=Market%20performance%20and%20planning%20forum>.

³²⁷ See <http://www.caiso.com/informed/Pages/BoardCommittees/MarketSurveillanceCommittee/Default.aspx>.

³²⁸ See <http://www.caiso.com/informed/Pages/BoardCommittees/Default.aspx>.

assessment of the DAME and EDAM functionalities. Specifically, the CAISO and its independent market monitor and experts will:

1. Expand its standard quality and validation tasks to encompass the monitoring and assessment of the new elements introduced with the DAME and EDAM policy initiatives.
2. Broaden the scope of its market performance reports to encompass DAME and EDAM.
3. Offer dedicated support to each onboarded entity, aiding in the entity's understanding of market functioning and solutions, as well as identifying and addressing any identified issues. This support will include daily performance reports and scheduled calls.
4. Publish monthly reports that evaluate the performance of the various market features of DAME and EDAM for the initial six months of their operation. Subsequently, these reports will be generated quarterly until the market achieves a stable period.

Furthermore, the CAISO commits to establishing an appropriate forum to educate and engage in discussions with market participants to determine the specific metrics that should be in place for monitoring and assessing EDAM and DAME. These discussions will be planned well in advance of the planned implementation of DAME and EDAM. Looking beyond the implementation date, the CAISO will convene a regular forum to review market performance, present identified issues, and collaborate with all interested parties. These efforts will inform market design initiatives and ensure the feedback loop between the CAISO and stakeholders will continue through the evolution of the market. After the CAISO puts into effect the DAME and EDAM designs proposed in the August 22 Filing so that the CAISO can begin delivering additional reliability and economic benefits to western electricity consumers, the CAISO welcomes and

expects continued evolution of DAME and EDAM based on extensive stakeholder engagement.

S. The Commission Should Disregard Comments on Matters that Are Beyond the Scope of Whether the DAME and EDAM Tariff Revisions Are Just and Reasonable

Various commenters raise concerns about potential future revisions to DAME and EDAM.³²⁹ Under well-established precedent,³³⁰ the Commission's only concern in addressing a tariff amendment filing under FPA section 205 is the tariff revisions before it, not any issues related to existing tariff language unaffected by the filing or potential future tariff revisions.³³⁰ As such, any commenters issues addressing potential future modifications or enhancements are beyond the scope of the instant proceeding.

That said, as the CAISO and all stakeholders gain operational experience and continue our collective collaboration, the CAISO will be vigilant, attentive, and expedient in its response to identified concerns, consideration of proposals to address significant issues, and the development of appropriate enhancements

³²⁹ See, e.g., ACP at 8-9, 14-15; DMM at 7-8, 26; SDG&E at 6-7.

³³⁰ See, e.g., *Sw. Power Pool, Inc.*, 160 FERC ¶ 61,087, at P 12 (2017); (“Golden Spread supports SPP's proposed revisions to its Tariff, but requests that the Commission direct SPP to make further revisions to its Tariff related to quick start resources. We find Golden Spread's requests for additional Tariff changes to be beyond the scope of this FPA section 205 proceeding and, therefore, we reject Golden Spread's request for further Tariff changes.”); *Cal. Indep. Sys. Operator Corp.*, 154 FERC ¶ 61,169, at P 63 (2016) (internal citation omitted) (“[W]e find that Generation Associations' argument concerning the lack of a tariff requirement that affected systems use CAISO assumptions or methodologies in its studies is, in essence, a challenge to CAISO's existing tariff. As Generation Associations acknowledge, CAISO's current tariff does not include such a requirement, and CAISO is not proposing to change that in the instant filing. As such, we view Generation Associations' argument as beyond the scope of this proceeding.”); *PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,191, at P 24 (2013) (finding that “AEP's request for the Commission to direct PJM to revise its existing tariff to address AEP's claim of differing treatment regarding recovery of variable operations and maintenance costs for ALR black start units also is beyond the scope of the tariff provisions proposed in this section 205 filing. AEP may pursue its concerns through the PJM stakeholder process”).

for future consideration by the Commission. The CAISO anticipates enhancements after its first year of experience with DAME and EDAM, working collaboratively and transparently with market participants, similar to its experience in developing enhancements of the WEIM. This is also something the CAISO committed to during the design processes. However, these experiences and commitments do not necessitate Commission directives for the CAISO to take future action at the present time.

The CAISO will follow through and work with its stakeholders to enhance the DAME and EDAM designs and propose changes as described in this Answer. All interested parties can raise their concerns in any future stakeholder process or any Commission proceeding begun by the CAISO's submission of tariff enhancements pursuant to a stakeholder process.

In some cases, commenters propose enhancements already being considered in other CAISO stakeholder initiatives. For example, DMM recommends that the CAISO consider extending the uncertainty horizon of the real-time FRP so that the markets can procure and compensate the capacity required to address net load uncertainty that exists over the real-time market's 4-hour time horizon.³³¹ The CAISO agrees this is worth considering and is doing so in the Price Formation Enhancements initiative, which is currently meeting through stakeholder working groups to evaluate a range of topics.³³²

³³¹ DMM at 13-14.

³³² See <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Price-formation-enhancements>.

Powerex and Deseret raise questions about the independence of the CAISO and its governance.³³³ The CAISO's governance structure, however, meets the Commission's requirements relating to governance generally and independence specifically. The Commission has found that the CAISO's governance meets the requirements of Order No. 888, as well as the inclusiveness and responsiveness requirements set forth in Order No. 719.³³⁴ More recently, in approving the WEIM, the Commission considered and rejected Powerex's challenge to the CAISO's independence. The Commission found that the CAISO Governing Board continues to meet all of the Commission's independence requirements in a context where the market is expanded outside of California to other balancing areas.³³⁵ This holding continues to apply with equal force in the context of EDAM, and Powerex provides no basis for concluding otherwise.

Deseret alleges an independence problem because the CAISO as market operator will be evaluating whether balancing areas outside California satisfy various criteria related to participating in the market and also is responsible for operating a balancing authority, and suggests the Commission should require some kind of separation between the market operator and balancing area functions. This argument ignores, however, that the CAISO is proposing the same structure and approach used for the WEIM, which the Commission has

³³³ Deseret at 2-5; Powerex at 15-16.

³³⁴ *Cal. Indep. Sys. Operator Corp.*, 112 FERC ¶ 61,010, at PP 32, 36 (2005); *Cal. Indep. Sys. Operator Corp.*, 133 FERC ¶ 61,067, at P 40 (2010).

³³⁵ *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231, at P 109 (2014).

approved and which has been successful to date. The CAISO has a nine-year successful track record of handling the market operator function for a footprint that includes and extends beyond its balancing area under the WEIM. Deseret cites no evidence throughout this period indicating this arrangement has posed a problem or that CAISO operators have favored any one balancing area over another.

Moreover, Deseret's argument confuses the relevant regulatory requirement, which is that a market operator must be independent financially from "market participants" and thus from market outcomes.³³⁶ The CAISO unquestionably satisfies this regulatory requirement. The balancing area that the CAISO operates is not a market participant any more than the balancing areas administered by other ISOs and RTOs.³³⁷ The buying and selling in EDAM will be done by actual market participants, not the CAISO. As a result, the fact that the CAISO operates a balancing area presents no conflict with its role as a market operator.

In addition, Powerex claims that CAISO decisions "tilt[] in favor of California interests."³³⁸ Not only does Powerex fail to provide any evidence to support this claim, there are substantial existing protections to prevent such an outcome from possibly occurring. The CAISO's stakeholder process is transparent and robust, providing a full and fair opportunity for all stakeholders to

³³⁶ See Deseret at 4 (citing 18 CFR § 35.34(j)(1)).

³³⁷ See 18 CFR § 35.34(b)(2) (defining a "market participant" for purposes of the independence regulation).

³³⁸ Powerex at 15-16.

present their viewpoints. In addition, the CAISO Governing Board established the WEIM/EDAM Governing Body and vested it with joint approval authority over WEIM/EDAM market rules, which further addresses the concern Powerex raises here. EDAM, moreover, is voluntary market, which creates a positive incentive for the CAISO to develop proposals that balance the concerns of all stakeholders, rather than favoring some stakeholders over others. And even if a stakeholder process were to somehow produce a proposal that unduly discriminates in favor of any particular stakeholder or group of stakeholders, the proposal would be rejected by the Commission.

The fact that the CAISO stakeholder process has no formal voting by stakeholder sector also does not undermine the effectiveness of this process. To the contrary, comments in this proceeding widely highlight the effectiveness of the stakeholder processes the CAISO used to develop DAME and EDAM.³³⁹

³³⁹ See, e.g., ACP at 2 (“CAISO has been diligently working with stakeholders since early 2020 to develop the EDAM policy proposal that is now before the Commission in this docket.”); AEU at 2 (“CAISO conducted a broad, inclusive stakeholder process to develop the EDAM proposal and the filing represents a balanced compromise among diverse groups of interested parties.”); Idaho Power at 1 (“The EDAM portion of the filing is the result of an intensive and collaborative stakeholder process that included extensive meetings, workshops, and discussions between the CAISO and market participants, California entities and non-California entities, transmission providers and users, and all interested stakeholders, including Western regulators.”); NV Energy at 1 (“NV Energy supports the EDAM portion of the filing as the product of an intensive and collaborative stakeholder process.”); PIOs at 2 (“PIOs also commend the CAISO on its commitment to inclusive and highly participatory stakeholder engagement that led to the development of the iterations of draft proposals and on the willingness of the CAISO to make changes based on stakeholder feedback throughout the EDAM Initiative.”); SCE at 2 (“SCE congratulates the CAISO and the many stakeholders throughout the entire western United States who collaborated and contributed to the design. The level of regional cooperation has been commendable and noteworthy, if not historic.”); Six Cities at 2 (“The CAISO Filing reflects important reforms that result from the focused and diligent efforts of the CAISO leadership and staff, stakeholders, and regional regulators.”); WAPA at 4 (“WAPA appreciates the opportunity to provide comments during the CAISO’s stakeholder process and the CAISO’s willingness to engage directly with WAPA on these significant issues.”).

For all of these reasons, there is no legal or factual basis for the Commission to consider imposing any further requirements in the areas of governance or independence.

T. The Commission Should Issue an Order by December 21, 2023 Granting the CAISO's Requested Effective Dates for the DAME and EDAM Tariff Revisions, as Modified in One Minor Respect by this Answer

The CAISO appreciates the perspective of PacifiCorp and BANC as the first two balancing authorities to publicly identify as prospective participants in EDAM.³⁴⁰ As recently reported by the CAISO and others,³⁴¹ the CAISO and its partners are in the process of re-evaluating the CAISO's earlier timeline that anticipated a 2025 launch date for EDAM, with 2026 now the likely onboarding timeline. Ongoing coordination with PacifiCorp and BANC is essential to more fully understanding the practical implementation steps, including the need to align transmission service provider tariff changes with an approved CAISO tariff framework for EDAM, as well as the need to develop, test, and activate functionality consistent with Commission-approved DAME and EDAM rules. Further, it essential for participant staff to receive sufficient training and market simulation experience to operate the systems and administer the associated procedures. The CAISO commits to keeping the Commission informed of its progress and to update the Commission regarding the May 1, 2025 effective date

³⁴⁰ BANC at 2-3; PacifiCorp at 2-6. In addition, SMUD is a member of BANC and has authorized participation in EDAM through BANC. SMUD at 2.

³⁴¹ See memorandum from Elliot Mainzer, President and Chief Executive Officer of the CAISO, to the CAISO Governing Board and WEIM Governing Body, at 3-4 (Sept. 12, 2023), available at <http://www.caiso.com/Documents/CEOReport-Sep2023.pdf>.

requested in the August 22 Filing when more information about a revised effective date becomes available.³⁴²

The CAISO agrees with the commenting parties that the Commission should issue an order by December 21, 2023 (as requested in the August 22 Filing) that accepts the CAISO's tariff revisions, so that further DAME-EDAM implementation efforts can continue. Issuance of a Commission order on that date remains appropriate to establish a level of certainty required for potential EDAM participants to commence the lengthy implementation and approval processes they have ahead. The CAISO and interested participants are positioned to execute on a nonetheless tight timeline, including organizing people and forming project teams, engaging with vendors, increasing headcount, and making some level of investment into systems development, all of which would be in jeopardy without a decision from the Commission in the time frame requested.

The CAISO also respectfully requests that the Commission accept new tariff section 33.11.5, which addresses the EDAM implementation fee for prospective EDAM entities that the CAISO will collect pursuant to the *pro forma* EDAM Implementation Agreement, effective December 21, 2023 (*i.e.*, the same effective date the CAISO requested for the EDAM Implementation Agreement itself). The CAISO inadvertently did not include a request for a December 21, 2023 effective date for tariff section 33.11.5 in its list of EDAM implementation

³⁴² See transmittal letter for August 22 Filing at 2, 199-200.

tariff sections for which it requested that effective date in the August 22 Filing,³⁴³
but it is necessary to allow proper implementation of EDAM.

³⁴³ See *id.* at 199.

IV. CONCLUSION

For the foregoing reasons, the Commission should accept the tariff revisions contained in the August 22 Filing, as clarified herein, without condition, obligation, or additional modification, except as committed to by the CAISO in this Answer.

Respectfully submitted,

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Dated: October 11, 2023

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document on the persons listed on the official service list maintained by the Secretary for this proceeding.

Dated at Washington, DC this 11th day of October, 2023.

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