BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 19M-0495E

IN THE MATTER OF THE COMMISSION'S IMPLEMENTATION OF §§ 40-2.3-101 AND 102, C.R.S., THE COLORADO TRANSMISSION COORDINATION ACT.

JOINT REPLY COMMENTS OF

WESTERN RESOURCE ADVOCATES,

WESTERN GRID GROUP AND

NATURAL RESOURCES DEFENSE COUNCIL

December 16, 2019

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Western Resource Advocates ("WRA"), Western Grid Group ("WGG") and Natural Resources Defense Council ("NRDC") (collectively, "Joint Commenters") jointly submit reply comments[1] to the Colorado Public Utilities Commission ("Commission") in Proceeding No. 19M-0495E, pursuant to the Colorado Transmission Coordination Act of 2019, Colo. Rev. Stat. §§ 40-2.3-101 and 102 (2019).[2] The Commission's September 11, 2019 decision initiating this proceeding, Decision No. C19-0756, solicited initial comments regarding the impact to electric utilities, other generators and Colorado electric customers from electric utility participation in any of the current or potential future market structures, including energy imbalance markets ("EIMs"), Regional Transmission Organizations ("RTOs"), power pools, or joint tariffs. Joint Commenters filed initial comments on November 15, 2019 in support of the development and regional expansion of electricity markets that facilitate the automated balancing of energy resources over a broader geographic footprint.[3]

I. Introduction

Nearly all parties in this proceeding support market opportunities for Colorado utilities.[4] This is because regional market constructs, including EIMs and RTOs, provide operational efficiencies (including reduced operational dispatch costs and lower reserve requirements), more efficient use of existing transmission assets, and the cost effective and reliable integration of

[1] Joint Commenters note that the deadline for filing responsive comments provided in Decision No. C19-0756 is December 15, 2019, which falls on a Sunday. Joint Commenters are timely filing these responsive comments on December 16, 2019, pursuant to Commission Rule 1203(a).
[2] All statutory citations are to the 2019 Colorado Revised Statutes, unless otherwise noted.
[3] Initial Joint Comments of WRA, WGG and NRDC, pp. 6-13.
[4] *See, e.g.*, Initial Comments of Advanced Energy Economy Institute, pp. 2-3; Initial Comments of Black Hills Colorado Electric, LLC, p. 2; Initial Comments of the Colorado Energy Office, p. 5; Notice of Intent to Participate and Initial Comments of the Colorado Solar and Storage Association and the Solar Energy Industries Association, pp. 4-7; Comments of the Institute for Policy Integrity, pp. 3-14; Initial Comments of the Interwest Energy Alliance and the American Wind Energy Association, pp. 1-4; Initial Comments of Public Service Company of Colorado, pp. 2-3, 6-9; Initial Comments, Notice of Participation, and Entry of Appearance of Sustainable FERC Project, pp. 3-5; and Initial Comments of Tri-State Generation and Transmission Association, Inc., pp. 1-2.

higher penetrations of renewable energy resources. These operational efficiencies translate into cost savings not only for utilities, but also for their ratepayers.[5] In addition, markets enable Colorado utilities to comply with the state's recently enacted environmental policies at lower cost while enhancing electric grid reliability.[6]

Joint Commenters recognize the wide portfolio of regional market options under review in this proceeding and concur with a number of parties that joining a fully organized RTO construct offers the greatest potential for both utility and ratepayer benefits. However, at present, there is a relatively limited number of market structures that are currently available to Colorado utilities. These market options include: the Western Energy Imbalance Market ("EIM") operated by the California ISO ("CAISO") and the Western Energy Imbalance Service ("WEIS") operated by the Southwest Power Pool ("SPP").

Recently, CAISO proposed to add day-ahead market services to the EIM through the Extended Day-Ahead Market ("EDAM") stakeholder initiative, but because EDAM's market design is still in the early stages of discussion among CAISO staff, potential market participants, and stakeholders, these comments will not address EDAM in detail. Additionally, while the EIM has been operational since 2014, the EDAM and WEIS markets are in concept form only. WEIS, however, is further along than EDAM and includes a preliminary market design and commitments from certain Colorado and Wyoming utilities to take WEIS market service from SPP.[7] The below comments are therefore narrowly tailored, first discussing the foundational

[5] Initial Joint Comments of WRA, WGG and NRDC, pp. 18-19.
[6] *Id.* at 24-27.
[7] On September 9, 2019, Basin Electric, Tri-State Generation and Transmission Association, and the Western Area Power Administration announced their decision to join SPP's WEIS. However, this announcement only pertains to a *portion* of these entities' loads and resources (for example, Tri-State has far more generation and load located inside the Public Service Balancing Authority that is *not* committed to the WEIS market option and only some of WAPA's service territory is currently committed to SPP's WEIS, while other portions of its service territory have committed to the CAISO EIM or remain uncommitted to a market option). *See* Press Release, Three regional utilities announce

issue of state authority and then comparing and contrasting the two currently available market options – the EIM and the WEIS – using market design and governance criteria.

II. State Authority

State authority is a wide-ranging topic that includes a number of considerations. First is the question of whether the Commission can *approve* or *condition* its approval of a utility's request to join a particular market construct. Related to this consideration is whether the Commission has the authority to *order* a utility under its jurisdiction to participate in a preferred market option. Finally, once a utility has begun participating in a market, there is the question of whether and how the state's regulatory authority over that utility may change.

As discussed in our initial comments, Joint Commenters agree with the position taken by The Sustainable FERC Project and others – specifically, that if the Commission finds through this proceeding that utility participation in an organized market is in the public interest, the Commission has authority under existing law to order the utilities under its jurisdiction to take the steps necessary to join the preferred market option.[8] However, Joint Commenters also previously noted that invoking such authority will likely not be necessary as Colorado's utilities have either already committed to join a particular market or are currently studying the costs and benefits of available market options, with the intent of joining the preferred market option at a later date.[9]

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decision to join Southwest Power Pool market (Sep. 9, 2019) (available at: https://www.spp.org/newsroom/press-releases/three-regional-utilities-announce-decision-to-join-southwest-power-pool-market/).

[8] *See, e.g.*, Initial Comments, Notice of Participation, and Entry of Appearance of Sustainable FERC Project, pp. 17-22.

[9] Public Service and the Joint Dispatch Agreement participants have hired the Brattle Group to study the costs and benefits of joining the CAISO EIM compared to the costs and benefits of joining the SPP WEIS, while portions of WAPA (i.e., the Upper Great Plains Western Area Balancing Authority and Western Area Colorado Missouri Balancing Authority footprints) have already committed to joining the SPP WEIS. *See* Judith Kohler, *Four Colorado utilities join forces to explore joining regional trading market*, DENVER POST (Aug. 31, 2019, 6:00 AM), https://www.denverpost.com/2019/08/31/colorado-utilities-trading-market-xcel/ and Press Release, Three regional utilities announce decision to join Southwest Power Pool market (Sep. 9, 2019) (available at:

Additionally, Joint Commenters believe that regional markets are most likely to succeed when utilities – i.e., the market's participants – have initial buy-in. The development and ongoing success of the EIM underscores this point. The EIM's first utility participant, PacifiCorp, decided to join the market after first performing a cost/benefit analysis and determining that the potential benefits of joining the EIM far outweighed any possible risks. Each utility that has subsequently joined the EIM has reached similar conclusions after conducting their own studies and, as previously noted, actual benefits to date of EIM participation far outweigh those initially projected benefits.[10] There is no record of a western state commission ordering its utility to participate in the EIM.

Indeed, state regulatory commissions may be best served by influencing (rather than ordering) these market participation decisions in various ways. The below discussion uses recent examples from the Nevada Public Utilities Commission ("Nevada Commission") and the New Mexico Public Regulation Commission ("New Mexico Commission") to show how the Colorado Commission may be able to meaningfully impact current and future real-time market participation decisions of its regulated utilities.

1. Nevada Commission's Prudency Review

In 2014, NV Energy sought approval from the Nevada Commission to modify its Energy Supply Plan ("ESP") in order to implement changes to its power procurement plans necessary for joining the EIM.[11] The ESP begins with a load forecast in order to project customers' future

https://www.spp.org/newsroom/press-releases/three-regional-utilities-announce-decision-to-join-southwest-power-pool-market/).

[10] Initial Joint Comments of WRA, WGG and NRDC, pp. 14-15.

[11] Commission Order, *Joint Application of Nevada Power Company, d/b/a NV Energy and Sierra Pacific Power Company, d/b/a NV Energy for approval of amendments to Energy Supply Plans to reflect participation in the energy imbalance market,* Docket No. 14-04024 (Aug. 27, 2014), available at: http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2010_THRU_PRESENT/2014-4/40876.pdf .

needs (including appropriate reserve margins) and then identifies a mix of utility-owned resources and market purchases necessary to meet those needs.[12] NV Energy evaluates these resource options again three criteria: (1) minimizing the cost of supply, (2) minimizing retail price volatility, and (3) maximizing the reliability of energy supply over the term of the ESP. In developing its ESP, NV Energy also considers the need to comply with Nevada's Renewable Portfolio Standard ("RPS") and whether the ESP optimizes the value of the overall supply portfolio for the benefit of its customers.[13]

In this instance, the Commission exercised its statutory authority in approving NV Energy's ESP to include all relevant start-up investments and modifications to its "portfolio optimizing strategies," with the intent of enabling NV Energy to "cost-effectively and reliably" participate in the EIM.[14] This conclusion was reached only after Nevada Commission Staff supported NV Energy's participation in the EIM, finding that it would result in economic benefits to wholesale and retail customers by offsetting fuel and power purchase costs. In its final order, the Nevada Commission approved NV Energy's application for prudent review of its intention to participate in the EIM and also approved the accounting processes that would later be used by the utility to pass on EIM benefits to ratepayers.[15]

[12] Energy Supply Plan: Testimony, Narrative and Technical Appendix, *Application of Nevada Power Company, d/b/a NV Energy and Sierra Pacific Power Company, d/b/a NV Energy, seeking approval to add 1,001 MW of renewable power purchase agreements and 100 MW of energy storage capacity, among other items,* Docket No. 18-06___ (May 16, 2018), pp. 5-6, available at: https://www.nvenergy.com/publish/content/dam/nvenergy/brochures_arch/about-nvenergy/rates-regulatory/recent-regulatory-filings/nve/irp/NVE-18-06003-IRP-VOL18.pdf.
[13] *Id.*
[14] Nevada Commission Order at 49-51.
[15] *Id.*

2. New Mexico Commission's Regulatory Asset Approval

In 2017, the New Mexico Commission opened an initial investigation to evaluate the feasibility of Public Service Company of New Mexico ("PNM") becoming a member of the Mountain West Transmission Group ("MWTG"), the SPP RTO, or the Western EIM.[16] Following E3's analysis of the costs and benefits to PNM from potential participation in these various market options, PNM concluded that the EIM offered the greatest potential for benefits.[17]

Soon thereafter, PNM filed an application at the Commission related to its future EIM participation, seeking Commission approval of the utility's proposed accounting treatment for costs related to joining the market.[18] Specifically, PNM sought a reasonableness determination regarding its ability to create a regulatory asset that would allow it to seek recovery of the costs and carrying charges associated with the capital investments and operating and maintenance costs of joining the EIM in a future general rate case. According to PNM, these start-up costs include expenses related to necessary equipment and infrastructure upgrades.[19]

New Mexico Commission Staff ultimately recommended that the Commission issue an accounting order finding it reasonable for PNM to join the EIM and authorizing PNM to create a regulatory asset, should PNM choose to join. However, Staff clarified that approval of the creation of the regulatory asset would not qualify as a guarantee that the actual costs would be

[16] *See* Errata Notice, *In the Matter of a Commission Investigation into the Feasibility of Public Service Company of New Mexico Becoming a Member of the Southwest Power Pool,* Case No. 17-00261-UT (Nov. 2, 2017).
[17] Specifically, PNM noted that the EIM "can bring significant benefits to customers, including expanding opportunities for additional renewable energy in PNM's service territory" and that "the transition to more flexible resources, as considered in PNM's 2017 Integrated Resource Plan, may increase the gross benefits from $17 million to $21 million in future years." Public Service Company of New Mexico's March 29, 2018 Status Report, *In the Matter of a Commission Investigation into the Feasibility of Public Service Company of New Mexico Becoming a Member of the Southwest Power Pool,* Case No. 17-00261-UT (March 29, 2018).
[18] *See* Application of Public Service Company of New Mexico for Approval of an Accounting Order Governing PNM's Investments and Expenditures to Join the Western Energy Imbalance Market, *In the Matter of Public Service Company of New Mexico's Request for a Commission Order Governing the Accounting Treatment of Costs Related to Joining the EIM,* Case No: 18-00261-UT (Aug. 22, 2018).
[19] *Id.*

found reasonable or prudent "because PNM will have the opportunity to establish the reasonableness of those costs during PNM's next general rate case."[20] Ultimately, the Commission agreed with Staff's recommendations, requiring that PNM make a regular filing of EIM benefits reports so as to track the flow-through of market benefits to ratepayers.[21]

In addition to considering how state regulatory commissions may influence their utilities' decisions to participate in real-time energy markets, it is important to consider how state regulatory authority may change under various market constructs. When joining a real-time energy market like the EIM or the WEIS, utilities retain their Balancing Authority ("BA") boundaries and associated reliability obligations established by the North American Electric Reliability Corporation. This also holds true for the EDAM proposal. This means that utility decisions surrounding resource adequacy, transmission planning, and intrastate transmission cost allocation continue to be overseen and regulated by state commissions. By contrast, when moving to an RTO, utilities are required to transfer control of their transmission assets to the market operator. In an RTO, it is therefore common for the market operator to be responsible for transmission planning, transmission cost allocation and resource adequacy determinations for the entire market footprint. As discussed in Joint Commenters' previously filed comments, while state commissions will admittedly lose some of their authority under this model, they can still influence these RTO-level determinations in varying ways by obtaining what are known as *complementary* Section 205 filing rights.[22]

[20] *See* Order Clarifying Final Order, *In the Matter of Public Service Company of New Mexico's Request for a Commission Order Governing the Accounting Treatment of Costs Related to Joining the EIM,* Case No: 18-00261-UT (April 24, 2019).
[21] *Id.*
[22] Initial Joint Comments of WRA, WGG and NRDC, pp. 20-24.

III. Comparing and Contrasting Currently Available Market Options

To better inform the Commission's inquiry into market costs, benefits and governance structures, this section compares and contrasts the currently available market options across a number of market design and governance criteria: (1) market benefits, (2) participation of flexible loads and distributed energy resources ("DERs"), (3) emissions tracking, (4) stakeholder process, (5) board of directors, (6) the role of states, and (7) market entry and exit provisions. In comparing and contrasting the EIM and WEIS real-time markets, Joint Commenters recognize that the EIM has been fully operational since 2014, while the WEIS market design is still under development will not "go live" until February 2021.[23]

1. Market Benefits

As noted in our previously filed comments, market benefits include quantifiable and harder to quantify benefits. Quantifiable benefits are substantial and include, but are not limited to, production cost savings realized through the automated dispatch of generating resources, reductions in reserve requirements, and more efficient use of existing transmission. Harder to quantify benefits include improved grid coordination and reliability (including enhanced transmission congestion management), options to innovate for new services and transactions, and abilities across a range of options to reliably and cost-effectively integrate high penetrations of renewable resources (resulting in reduced renewable energy curtailments).

Many factors play a role in the potential benefits to be realized from one market structure versus another, including the size of the market footprint, diversity of loads and resources, and transmission connectivity. As discussed in our previously filed comments, it is generally understood that the larger the market footprint, the greater the benefits to be realized from market

[23] Comments of Southwest Power Pool, Inc., p. 32.

participation.[24] Similarly, many studies have demonstrated the greater the number of market participants, the greater the diversity in market topology, and the greater the diversity in loads and resources, the greater the net benefits. The California ISO Senate Bill 350 study demonstrated this fact when it concluded that benefits to California ratepayers from regional expansion of the CAISO's day-ahead market started at $55 million per year in 2020 (assuming only CAISO and PacifiCorp as market participants) and grew substantially to a range of $1 billion to $1.5 billion per year by 2030 (assuming an expanded footprint including nearly all of the U.S. portion of the Western Interconnection).[25] As the study noted, this increase in benefits correlated with the increased diversity of peak loads in a larger market region, which in turn reduced the need for generation-related capital investments.[26]

In addition to the size of the market footprint and the diversity of loads and resources located within that footprint, the greater transmission connectivity between the utility and the market under consideration, the greater the benefits. For example, when PacifiCorp joined the EIM, its transmission connectivity to CAISO was somewhat limited (yet it still realized, on average, $6.19 million in benefits each quarter). After NV Energy joined the EIM, transmission connectivity between PacifiCorp and the CAISO substantially increased, as did benefits for PacifiCorp (with $10.85 million in benefits realized the quarter following NV Energy's entry into the market). As noted by CAISO: "The total gross benefits for Q1 2016 increased significantly from the past with the addition of NV Energy. This growth reflects the economic value associated with the increase in inter-regional transfer capability."[27]

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[24] Initial Joint Comments of WRA, WGG and NRDC, pp. 6-8.
[25] THE BRATTLE GROUP, INC. ET AL., SENATE BILL 350 STUDY: THE IMPACTS OF A REGIONAL ISO-OPERATED POWER MARKET ON CALIFORNIA (2016), https://www.caiso.com/Documents/SB350Study_AggregatedReport.pdf.
[26] *Id.*
[27] CALIFORNIA ISO, WESTERN EIM BENEFITS REPORT, FIRST QUARTER 2016 4 (2016), https://www.westerneim.com/Documents/ISO_EIM_BenefitsReportQ1_2016.pdf.

CAISO Energy Imbalance Market

Today, the EIM's footprint includes nine entities and spans eight western states. Going forward, 19 entities have committed to participate in the EIM and by 2022, it will serve over 77 percent of Western Interconnection load.[28] Since it began operating in November 2014, the EIM has realized over $800 million in gross benefits for EIM participating entities and avoided 14,485 metric tons of carbon dioxide emissions in the form of avoided renewable energy curtailments (or re-dispatched surplus renewable resources). [29] According to the CAISO, the continued increase in EIM benefits demonstrates the benefit of economic dispatch in the real-time market across a larger EIM footprint that enables more diverse resources and geography.[30]

In addition to the aforementioned benefits, the EIM's participants have observed operational efficiencies through a 49 percent average reduction in flexibility reserve requirements.[31] Flexibility reserves – a type of operating reserve – address both variability and uncertainty of grid conditions (resulting from increased penetrations of renewables) on timescales longer than contingency and regulating reserves, but are expensive for utilities to maintain.[32] The EIM has also successfully allowed participating utilities to leverage their Security Constrained Economic Dispatch ("SCED") tools to gradually displace fossil-fuel resource generation with zero marginal cost renewable energy resources. These economic and

[28] Comments of the California Independent System Operator, p. 3.
[29] *Id.* at pp. 2-3.
[30] CALIFORNIA ISO, WESTERN EIM BENEFITS REPORT, THIRD QUARTER 2019 3, 19 (2019), https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ3-2019.pdf.
[31] *Id.*
[32] Operating reserves impose a cost on the electric power system by forcing system operators to keep partially loaded spinning generators available to respond to system contingencies and random variations in demand. *See* NATIONAL RENEWABLE ENERGY LABORATORY, FUNDAMENTAL DRIVERS OF THE COST AND PRICE OF OPERATING RESERVES iv. (2013), https://www.nrel.gov/docs/fy13osti/58491.pdf and GREENING THE GRID, https://greeningthegrid.org/Grid-Integration-Toolkit/Topics-And-Resources/system-operations-improvements/system-operations-improvements-page (last visited Dec. 16, 2019).

environmental benefits are a testament to a currently well-functioning and expanding real-time market service.

SPP Western Energy Imbalance Service

Joint Commenters recognize that the proposed WEIS market construct has the *potential* to connect with the larger SPP footprint across existing direct current ("DC") interties connecting the Western and Eastern Interconnections. DC tie optimization proved important when the Mountain West Transmission Group of utilities considered joining SPP's RTO, as it would have maximized the efficiency of the combined market footprint.[33] However, as currently conceived, the WEIS market will be operated on a contract basis by SPP and will therefore exist and operate entirely independent of the existing SPP footprint. In other words, the WEIS market will *not* include optimization of the existing DC ties and based on current levels of utility participation, will comprise a relatively small footprint in portions of Colorado and Wyoming, providing limited market benefits when compared to the benefits realized by the EIM's much larger footprint.

Specifically, as of this filing, SPP has reached agreement with two WAPA BAs to take WEIS market service beginning in February 2021.[34] Within these BAs is certain load and resources of other utilities, including Basin Electric Cooperative and Tri-State Generation and Transmission ("Tri-State").[35] SPP's WEIS will be modeled closely after the CAISO EIM – in

[33] The Glarus Group Study analyzed the benefits derived from scheduling power between the MWTG and SPP footprints using 720 MW of available DC interties. The results showed that the benefits for MWTG participants and SPP range from $11.7 million to $28.8 million, representing a significant reduction in net production costs. THE GLARUS GROUP, INC., MOUNTAIN WEST TRANSMISSION GROUP – SOUTHWEST POWER POOL DC INTERTIE VALUE STUDY 1-5 (2017), https://www.wapa.gov/About/keytopics/Documents/mountain-west-spp-dc-intertie-value-study.pdf.

[34] Comments of the Southwest Power Pool, Inc., p. 32.

[35] The WAPA BAs that have committed to join the WEIS include the Upper Great Plains Western Area Balancing Authority and the Western Area Colorado Missouri BA footprints. *See* Press Release, Three regional utilities announce decision to join Southwest Power Pool market (Sep. 9, 2019) (available at:

other words, the primary market product will be five-minute energy imbalance and SPP will clear the market by determining the SCED that is the lowest-cost means of balancing generation and load.[36]

Because the WEIS market design is still under development and will not "go live" until February 2021, any market benefits are merely predictive at this early stage. To date, no study has been made publicly available to indicate the potential benefits of the WEIS market. However, as Joint Commenters noted in our earlier comments, Public Service and the Joint Dispatch Agreement ("JDA") participants have hired The Brattle Group to conduct a comparative analysis of the costs and benefits to those utilities of joining the EIM versus the WEIS, which should yield some insights into the potential benefits of joining the WEIS market option (for those utilities that have not yet joined).

2. Participation of Flexible Loads and DERs

Historically, electricity was generated at centralized facilities and transported long distances to customers. Except for interruptible customers, most loads' flexibility was ignored. Today, however, with increased attention to load flexibility (along with metering and rates that allow and incent load flexibility), new options are available for matching generation with demand.[37] These options are likely to expand as technology, policy and implementation progress, providing new opportunities for matching generation and loads at least cost.

https://www.spp.org/newsroom/press-releases/three-regional-utilities-announce-decision-to-join-southwest-power-pool-market/).

[36] Comments of the Southwest Power Pool, Inc., p. 33.

[37] "Load flexibility" includes demand response. It is the ability to manage loads in such a way as to provide additional high value grid services, including geographically-targeted demand reductions, load building, and system balancing. *See* Ryan Hledik et al., Presentation on behalf of The Brattle Group (June 2019) (available at: https://brattlefiles.blob.core.windows.net/files/16639_national_potential_for_load_flexibility_-_final.pdf).

Further, distributed energy resources located at or near customers' premises account for an increasing share of electricity supply.[38] As customers exercise their options to meet their requirements for more control and cleaner power, going forward, these options are also likely to increase their impacts on grid operations.[39] These resources – including small-scale solar, wind, energy storage systems, electric vehicles and charging facilities, energy efficiency, and demand response – have the potential to offer a number of benefits. For example, DERs located close to energy consumers can enhance reliability by increasing the diversity of generation and avoiding the energy losses inherent in long-distance transmission transactions.[40] Their use also presents challenges, however, particularly because their operation can interact with both bulk power systems and distribution grids.[41] To date, DERs have principally been located behind-the-meter and used to meet onsite needs, and have therefore played a relatively limited role in wholesale electricity markets.

The Federal Energy Regulatory Commission ("FERC") recently acknowledged the importance of DER participation in wholesale markets through the issuance of Order 841, designed to remove barriers to the participation of energy storage resource in wholesale markets.[42] Storage provides benefits in terms of providing load flexibility, operating as a negative load, or providing generation. FERC also issued a 2016 Notice of Proposed

[38] Justin Gundlach and Romany Webb, *Distributed Energy Resource Participation in Wholesale Markets: Lessons from the California ISO*, 39:1 Energy Bar Association 47, 50 (2018), http://columbiaclimatelaw.com/files/2018/05/Gundlach-and-Webb-2018-05-DER-in-Wholesale-Markets.pdf.
[39] *Id.*
[40] *Id.*
[41] MORE THAN SMART, COORDINATION OF TRANSMISSION AND DISTRIBUTION OPERATIONS IN A HIGH DISTRIBUTED ENERGY RESOURCE ELECTRIC GRID, http://www.caiso.com/Documents/MoreThanSmartReport-CoordinatingTransmission_DistributionGridOperations.pdf.
[42] FERC Order No. 841, 162 FERC ¶ 61,127 (2018).

Rulemaking, requiring RTOs and ISOs to establish market rules for energy storage and to enable aggregated DERs to participate in wholesale markets.[43]

Due to the growing influence and importance of load flexibility and DERs, Joint Commenters believe that any market offering should be able to accommodate the participation of these resources. Particularly important for Colorado, demand side participation in markets will present additional opportunities for meeting recently enacted state climate goals.[44] Indeed, Joint Commenters consider DER and flexible load participation to be an essential yardstick in the Commission's evaluation of current real-time market options.

CAISO Energy Imbalance Market

At an April 2018 FERC technical conference, the only U.S. market operators who voiced their support for DER and load flexibility participation in wholesale markets were CAISO and PJM.[45] Perhaps this is not surprising, as CAISO has been a trailblazer in this area. CAISO market rules allow aggregations of DERs and load flexibility to participate in the market and also to provide energy and ancillary services.[46] However, CAISO has also recognized that system operators can only draw on DERs and aggregated load flexibility if they perform reliably, their operation is predictable and transparent, and their contributions are large enough to be economical both to their owners and the grid as a whole.[47]

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[43] *See* Kevin Hernandez and Quentin Watkins, *FERC Digs Deeper into Distributed Energy Resource Aggregation*, SCOTT MADDEN, https://www.scottmadden.com/insight/ferc-digs-deeper-into-distributed-energy-resource-aggregation/.
[44] *See, e.g., Polis Administration's Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action* (2019), https://raqc.org/governor-polis-releases-roadmap-to-100-percent-renewable-energy-and-bold-climate-action/.
[45] Hernandez and Watkins, *supra* note 43.
[46] Distributed energy resource providers are market participants who own or operate an aggregation of distributed energy resources in order to participate in the market. *See Distributed Energy Resource Provider,* CALIFORNIA ISO, http://www.caiso.com/participate/Pages/DistributedEnergyResourceProvider/Default.aspx
[47] Gundlach and Webb, *supra* note 38.

Through forward-thinking policies such as DER aggregation, CAISO has gained significant experience managing a diverse resource mix and specifically, integrating DERs and load flexibility. While the EIM is able to leverage the CAISO's real-time market operations to integrate DERs and load flexibility as it would any other supply side resource, market participation barriers still exist.[48] CAISO's Energy Storage and Distributed Energy Resource stakeholder initiative seeks to explore refinements to the market's DER and energy storage participation models, as well as to lower integration barriers for demand response resources. Key areas for enhancements include: (1) consolidation of DER participation agreements to reduce transaction costs; (2) improvements to bidding requirements for energy storage products in an effort to limit potential market power of these resources; and (3) more accurately reflecting the operating characteristics of demand response resources to enhance their value.[49]

SPP Western Energy Imbalance Service

SPP's RTO is experiencing a significant penetration of wind energy on its system with 17 gigawatts ("GW") of installed capacity and upwards of 10 GW of variable generation swings within a 24-hour period.[50] To accommodate a growing penetration of renewables, DERs, and load flexibility in its RTO footprint, SPP recently decided to move forward with a number of technological investments that can improve the integration of these resources, including, but not limited to: (1) market rules enhancements to enable energy storage resources to participate in the

[48] As noted by CAISO, "the increasing number of storage devices participating in the wholesale market warrants further investigation of the model to ensure the CAISO is using these unique resources optimally to meet the reliability needs of the grid." CALIFORNIA ISO, ENERGY STORAGE AND DISTRIBUTED ENERGY RESOURCES PHASE 4: REVISED STRAW PROPOSAL 4 (2019), http://www.caiso.com/InitiativeDocuments/RevisedStrawProposal-EnergyStorage-DistributedEnergyResourcesPhase4.pdf.
[49] *Id.* at pp. 3, 9, 24, 29-3.
[50] SOUTHWEST POWER POOL, AN EVOLUTIONARY APPROACH TO ADVANCING TECHNOLOGIES 1 (2018), https://www.spp.org/documents/56322/an%20evolutionary%20approach%20to%20advancing%20technologies%20v2.pdf

SPP market; (2) leveraging energy storage's ramping capability to reduce regulation capacity across the market footprint; (3) increasing the market operator's visibility into the distribution grid (through improved data gathering practices) in order to operate reliably with DERs; and (4) eventually enabling DER participation in SPP's wholesale market via market operator control of these resources.[51]

According to the SPP WEIS Market Proposal, the WEIS market should be able to accommodate "dispatchable demand response resources," which SPP defines as resources "created to model demand reductions associated with controllable load and/or behind-the-meter generation that is dispatchable by the market on a five-minute basis."[52] However, whether the aforementioned technological advancements currently underway in SPP's RTO function will be available to WEIS market participants remains unclear. Such a determination, if available to the WEIS market, will likely be made by the market's participants.

3. Emissions Tracking

Joint Commenters and a significant majority of intervenors concur that any current or potential real-time market option must be able to accommodate the State of Colorado's existing greenhouse gas ("GHG") requirements and related RPS requirements.[53] As stated in our previously filed comments, Joint Commenters strongly recommend that any real-time market construct include a mechanism to track GHG emissions and be capable of accommodating various state policy requirements. In light of significant new greenhouse gas reduction goals

[51] *Id.* at pp. 4-6.
[52] SOUTHWEST POWER POOL, A PROPOSAL FOR THE SOUTHWEST POWER POOL WESTERN ENERGY IMBALANCE SERVICE MARKET (WEIS) 6 (2019), https://www.spp.org/documents/60104/a%20proposal%20for%20spp's%20western%20energy%20imbalance%20service%20market.pdf ("WEIS Market Proposal").
[53] *See, e.g.*, Initial Comments of The Colorado Energy Office, pp. 11-12; Comments of the Institute for Policy Integrity, pp. 12-14; Initial Comments of Public Service Company of Colorado, pp. 16-17; and Initial Comments, Notice of Participation, and Entry of Appearance of Sustainable FERC Project, pp. 10-12.

established in HB 19-1261 and electric utility-specific greenhouse gas reduction requirements contained in SB 19-236, it will be critical that any market construct utilized by Colorado utilities include a robust emissions tracking mechanism.

CAISO Energy Imbalance Market

In our previously filed comments, Joint Commenters provided a detailed description of how the EIM's GHG tracking mechanism works in practice.[54] In summary, CAISO uses a bid adder for purposes of the EIM in order to integrate the cost of compliance with California's GHG regulations into the final purchase price of energy.[55] For resources that exist within California, GHG compliance costs are already factored into their energy bids. For resources outside of California that intend to serve load within California, the bid adder is included in order to account for the cost of GHG compliance. Where EIM participating resources are dispatched to serve load outside of California (*i.e.*, to an EIM participating entity in a state with no GHG emissions requirements), the market optimizes to use *only* the energy bid. No GHG bid adder is required in this scenario because the importing state does not have an equivalent GHG compliance cost.

By using the GHG bid adder in the EIM, CAISO is able to account for GHG emissions in the California footprint of CAISO (in compliance with AB 32) without shifting that compliance burden onto other states where a similar obligation does not yet exist. Importantly for a state like Colorado, according to recent remarks made by the CAISO, the GHG bid adder will and can adapt to enable other states (whose utilities participate in the EIM) to comply with their own

[54] *See* Initial Joint Comments of WRA, WGG and NRDC, pp. 23-26 and Attachment A.
[55] Mark Rothleder, Presentation to EIM Regional Issues Forum: Current GHG Accounting Approaches (June 18, 2019) (available at: https://www.westerneim.com/Documents/Presentation-GHGAccounting-CAISO.pdf).

GHG policies in the future.[56] The EIM's GHG tracking mechanism will be further addressed as part of the EDAM stakeholder process, beginning in 2020.[57]

SPP Western Energy Imbalance Service

Presently, neither the market design of SPP's RTO nor its WEIS includes a mechanism for tracking GHG emissions.

4. Governance

Given the important functions performed by market operators, it is vital to ensure that these organizations operate both effectively and efficiently. When examining a market's governance and culture, it is therefore important to prioritize the following criteria: (1) a balanced and transparent stakeholder process where all stakeholders have a meaningful voice, (2) an independent board of directors, (3) a clearly defined role for states, and (4) low barriers to market entrance and exit.

The below discussion highlights major differences between the governance models and stakeholder processes of CAISO's EIM and SPP's WEIS. At the outset, it is worth clarifying that the WEIS market is still a market proposal and therefore certain elements of its market design and governance structure have yet to be finalized. Additionally, although the EIM has been "live" since 2014, its governance structure is currently under review as required by the EIM Governing Body Charter.[58] To implement this review, the CAISO Board of Governors and the EIM Governing Body recently appointed a 14-member stakeholder committee – the Governance Review Committee ("GRC") – to oversee this governance review effort and related stakeholder

[56] *Id.*
[57] CALIFORNIA ISO, EXTENDING THE DAY-AHEAD MARKET TO EIM ENTITIES: ISSUE PAPER 14-16 (2019), http://www.caiso.com/InitiativeDocuments/IssuePaper-ExtendedDayAheadMarket.pdf.
[58] CALIFORNIA ISO, CHARTER FOR ENERGY IMBALANCE MARKET GOVERNANCE 20 (2019), https://www.westerneim.com/Documents/CharterforEnergyImbalanceMarketGovernance.pdf.

process.[59] The GRC held its first meeting on December 4, 2019, and has 12 months to complete a revised governance proposal necessary to make necessary changes to the existing EIM governance model that will also be able to accommodate the eventual implementation of EDAM.[60] The final GRC proposal will be subject to the approval of both the CAISO Board of Governors and the EIM Governing Body.

a) Balanced and Transparent Stakeholder Process

Stakeholders play an important role in organized markets. This is because stakeholder governance is one of the primary processes for the development, amendment and proposal of market rules and tariffs for approval.[61] In Order 719, FERC developed a stakeholder involvement policy in order to improve the responsiveness of RTOs and ISOs to their customers and other stakeholders, and ultimately to the customers who benefit from and pay for electricity service.[62] FERC outlined the following four criteria to demonstrate responsiveness: (1) inclusiveness, (2) fairness in balancing diverse interests, (3) representation of minority positions, and (4) ongoing responsiveness.[63] Stated another way, market stakeholder processes, whether they take place at RTOs, ISOs, EIMs or EDAMs, must be balanced and transparent and allow all impacted stakeholder groups to have a meaningful voice in the RTO's decision-making process.

[59] By way of a clarification, three of the sector representatives on the GRC were self-selected – the representatives from the CAISO Board of Governors, the EIM Governing Body, and the EIM Body of State Regulators. *See* https://www.westerneim.com/Pages/Governance/GovernanceReviewCommittee.aspx.
[60] CALIFORNIA ISO, GOVERNANCE REVIEW COMMITTEE CHARTER (2019), https://www.westerneim.com/Documents/EnergyImbalanceMarketGovernanceReviewCommitteeCharter.pdf.
[61] R STREET, RTO GOVERNANCE REPORT: HOW THE RTO STAKEHOLDER PROCESS AFFECTS MARKET EFFICIENCY 1 (2017), https://www.rstreet.org/2017/10/05/how-the-rto-stakeholder-process-affects-market-efficiency/.
[62] FERC Order No. 719, 73 FERC ¶ 61,400 (2008).
[63] *Id.*

CAISO Energy Imbalance Market

The EIM stakeholder process is modeled after the CAISO stakeholder process. CAISO's stakeholder initiative process allows for a wide variety of stakeholders to engage and give valuable feedback to the CAISO through proposals, meetings, and comments, all in an effort to define the market operator's future tariff filings.[64] In these processes, anyone qualifies as a stakeholder and is able to submit comments to CAISO staff and management and to weigh in on final proposals in front of the CAISO Board of Governors or the EIM Governing Body. The EIM also includes two stakeholder committees (in addition to the previously mentioned Governance Review Committee) that offer further opportunity for stakeholder engagement and input: the EIM Regional Issues Forum ("RIF") and the EIM Nominating Committee.

The RIF provides a forum for stakeholder engagement, collaboration, and learning. It is organized by 10 self-selected sector liaisons and facilitates input and participation from various stakeholder sectors on topics of interest that are not currently part of an ongoing CAISO stakeholder process. [65] The forums, held at least three times per year, allow stakeholders to discuss broad issues related to the EIM. The forums are open to the public and may result in documents or opinions for consideration by the EIM Governing Body, the CAISO Board of Governors, and CAISO staff and management. Any actions taken by the RIF are typically taken on a consensus basis.[66]

[64] *See* http://www.caiso.com/StakeholderProcesses/.
[65] The RIF's 10 sector liaisons include two representatives from each of the following stakeholder sectors: Transmission Owning Utilities, Independent Power Producers/Power Marketers, Public Interest and Consumer Advocate Groups, Publicly Owned Utilities, and Neighboring Balancing Authorities. *See* Operating Guidelines, Energy Imbalance Market Regional Issues Forum (June 2017), https://www.westerneim.com/Documents/OperatingGuidelines-EIMRegionalIssuesForumRevisedJun2017.pdf and https://www.westerneim.com/Documents/EIMRegionalIssuesForumSectorLiaison.pdf.
[66] *Id.* at p. 3.

The EIM Nominating Committee is an eight-member stakeholder committee charged with nominating candidates for open positions on the EIM Governing Body.[67] Candidate nominees are subject to approval by the Governing Body. The Nominating Committee works with an executive search firm to identify and select the best qualified candidates for open positions on the Governing Body in an effort to ensure that the overall composition of the Governing Body reflects diversity of expertise and geographic representation (i.e., no one state or sub-region in the West should have excessive representation).[68] The members of the Nominating Committee confer with each other and with the members of their respective stakeholder sectors regarding the qualifications of candidates then under consideration, with the ultimate nomination typically resulting from a consensus decision of the Nominating Committee's members and subject to approval and final appointment by the EIM Governing Body.

SPP Western Energy Imbalance Service

While not entirely clear at this relatively early stage of WEIS market design and development, it appears that the stakeholder process for WEIS will be modeled after the SPP stakeholder process. Stated another way, while anyone will be permitted to be a stakeholder and to attend open stakeholder meetings, in order to have any meaningful influence over decisions impacting the WEIS tariff, one must first be a WEIS market participant.

[67] The Nominating Committee's membership represents the following stakeholder sectors: EIM Entities; Participating Transmission Owners; Suppliers and Marketers of Generation and Energy Service Providers; The Body of State Regulators; EIM Governing Body; CAISO Board of Governors; and Public Interest and Consumer Advocate Groups. CALIFORNIA ISO, SELECTION POLICY FOR THE EIM GOVERNING BODY 2-3 (2016), https://www.westerneim.com/Documents/SelectionPolicy_EIMGoverningBody.pdf ("EIM Governing Body Selection Policy").
[68] *Id.* at p. 5.

SPP plans to administer the WEIS as a contract service that is separate and distinct from its role as an RTO. To participate in the WEIS, interested utilities will be required to sign the Western Joint Dispatch Agreement ("WJDA"). [69] According to SPP, participants in the WEIS will have significant input and authority over its administration.[70] SPP will establish a Western Markets Executive Committee ("WMEC"), comprising representatives of each signatory to the WJDA.[71] Initially, the WMEC will constitute a forum in which SPP and market participants can collaborate to finalize market rules for purposes of implementing the WEIS. A role for stakeholders in this early phase of the WMEC's existence has not yet been clarified. After the market is "live," the WMEC will have additional responsibilities, including the authority to:

- Approve or reject proposed amendments to the WEIS tariff;
- Establish detailed WEIS market protocols to support the tariff;
- Provide consultation to SPP in determining the administrative rate charged to participants in the WEIS market; and
- Recommend proposed amendments to the WJDA.[72]

Additionally, the WMEC may establish working groups and task forces as needed. The membership of these working groups and task forces will be determined by the WMEC and, according to the latest version of the WMEC Charter, it is not clear whether stakeholders are eligible for appointment to these working groups and task forces.[73] As with other contract services, SPP's independent board of directors will provide ultimate oversight of SPP's

[69] WEIS Market Proposal, p. 14.
[70] *Id.*
[71] *Id.*
[72] *Id.*
[73] *Id.*

administration of the WEIS under the WJDA, but the board will give "significant recognition" to the WMEC's decision-making role.[74]

According to the WMEC Charter, the WMEC will provide a forum for those entities that have executed the WJDA with SPP and "other interested stakeholders" to discuss issues related to the ongoing administration and advancement of market development in the Western Interconnection.[75] However, the membership of the WMEC – a body with certain decision-making authority over the WEIS market – will be comprised only of WEIS market participants and only members will be able to vote on decisions of the WMEC.[76]

b) Independent Board of Directors

In Order 2000, FERC stated, "we have stressed the importance of a decision-making process that is independent of control by any market participant or class of participants."[77] This means that board members should not have a financial interest in the market, in order to ensure the independence of the RTO's decision-making process.[78] This principle aligns closely with the independence requirements for corporate boards of directors, which generally require that members should have no material interests in the company they oversee, in order to ensure that board members are not unduly influenced by their interests in the company.

[74] *Id.*
[75] SOUTHWEST POWER POOL, WESTERN MARKETS EXECUTIVE COMMITTEE CHARTER 3 (2019), https://www.spp.org/documents/61046/wmec%20charter%2020191121.pdf ("WMEC Charter").
[76] *Id.* at pp. 4, 6.
[77] FERC Order No. 2000, 89 FERC ¶ 61,285 (1999).
[78] Emphasizing flexibility between different RTO structures, the FERC did not set this out as an actual rule regarding financial independence of board members in Order No. 2000, though it did state that "the overarching standard [is] that its decision-making process must be independent of individual market participants and classes of market participants." *See* Michael H. Dworkin and Rachel Aslin Goldwasser, *Ensuring Consideration of the Public Interest in the Governance and Accountability of Regional Transmission Organizations*, 28:543 Energy Law Journal 543, 568 (2007), https://www.eba-net.org/assets/1/6/10-Governance_of_RTOs.pdf.

CAISO Energy Imbalance Market

The CAISO has very strict independence requirements for both the CAISO Board of Governors and the EIM Governing Body. The EIM is overseen by the EIM Governing Body – a five-member independent body appointed by the stakeholder comprised EIM Nominating Committee (and confirmed by the EIM Governing Body). Because the EIM is an extension of the CAISO's real-time market, the CAISO Board of Governors has delegated certain authority to the EIM Governing Body – specifically, primary authority over both the market rules of the EIM and any proposed changes to generally applicable rules of the real-time market *if* the primary driver for the change is the EIM. In addition to primary authority, the EIM Governing Body also has advisory authority and hybrid authority over certain market-level decisions – authority that is further clarified in the "Guidance for Handling Policy Initiatives within the Decisional Authority or Advisory Role of the EIM Governing Body" document.[79]

The EIM Governing Body's selection policy includes strict independence requirements, prohibiting candidates that have "prohibited relationships" and candidates that hold "prohibited financial interests" from being appointed to the EIM Governing Body.[80] In practice, this means that the following types of individuals *cannot* be appointed to the EIM Governing Body:

- Individuals who are employed by or provide consulting services to any entity (or person) that would disqualify them from service as a member of the Governing Body, including any entity that is engaged in the generation, transmission,

[79] CALIFORNIA ISO, GUIDANCE FOR HANDLING POLICY INITIATIVES WITHIN THE DECISIONAL AUTHORITY OR ADVISORY ROLE OF THE EIM GOVERNING BODY (2019), https://www.westerneim.com/Documents/GuidanceforHandlingPolicyInitiatives-EIMGoverningBody.pdf.
[80] EIM Governing Body Selection Policy, p. 7.

marketing, trading or distribution of electricity within the geographic area of the Western Electricity Coordinating Council;

- Individuals who hold a financial interest that would be prohibited by 18 C.F.R. § 35.34(j)(1)(i)[81]; or
- Individuals who have another actual or perceived conflict of interest that would be prohibited by the Code of Conduct & Ethical Principles and that could not be resolved before the candidate becomes a member of the Governing Body.[82]

SPP Western Energy Imbalance Service

The WEIS market will be jointly overseen by the WMEC and the SPP Board of Directors, although it appears that the SPP Board will retain ultimate authority over WMEC tariff filings.[83] While the SPP Board is a five-member independent board that satisfies FERC's independence requirements, the WMEC will be comprised only of WEIS market participants. Although the WMEC will be formed as a committee rather than as a board, as previously discussed, it will have a certain level of decision-making authority over the WMEC's final market design and its tariff. As a result, it will function very similarly to an RTO's Board of Directors, but in contrast to the SPP Board, the CAISO Board and the EIM Governing Body, as currently conceived, it will be unable to govern independently from the WEIS market participants.

[81] 18 CFR § 35.34(j)(1)(i) sets forth the independence requirements for RTOs and specifically requires that the RTO, "its employees, and any non-stakeholder directors must not have financial interests in any market participant."
[82] The CAISO Code of Conduct and Ethical Principles Document includes additional considerations for individuals who may be considered for appointment to the EIM Governing Body, including conflicts of interest and perceived conflicts of interest. CALIFORNIA ISO, CODE OF CONDUCT & ETHICAL PRINCIPLES 9-10 (2019), http://www.caiso.com/Documents/CodeOfConduct-EthicalPrinciples.pdf.
[83] According to the WMEC Charter, if the WMEC approves an action and the action is not appealed to the SPP Board of Directors, the action is deemed approved by the SPP Board of Directors, and SPP staff is authorized to submit any applicable required filing(s). Any action, or inaction, taken by the WMEC may be brought before the SPP Board of Directors for ultimate resolution. *See* WMEC Charter, p. 8.

c) Role of States

States also have an important role to play in the governance of organized markets. Most RTOs and ISOs (as well as the CAISO's EIM) have established committees to enable state commission representation in the governance of their markets. Additionally, in certain RTOs, these state committees are empowered with certain rights, known as Section 205 filing rights, that provide states with heightened authority over the market's approach to transmission cost allocation, resource adequacy, or both.[84] As previously discussed, Section 205 filing rights will not be triggered for purposes of a utility's decision to join either the EIM or the WEIS because under either of these real-time market constructs, BA boundaries will remain intact, control of transmission assets will not be transferred to the market operator, and state utility commissions will retain regulatory oversight over their utilities' resource planning, transmission planning, and intrastate transmission cost allocation decisions. However, even without the need for Section 205 filing rights, states (particularly state regulatory commissions) are deserving of an elevated stakeholder role in regional market governance.

CAISO Energy Imbalance Market

The EIM's Body of State Regulators ("BOSR") provides a forum for state regulators to learn about the EIM, the EIM Governing Body, and related CAISO developments that may be relevant to their jurisdictional responsibilities.[85] The BOSR may also express a common position in any CAISO stakeholder process or to the EIM Governing Body on EIM issues and has done so recently in comments and recommendations submitted to the CAISO on behalf of the

[84] *See* Initial Joint Comments of WRA, WGG and NRDC, pp. 20-23 and Jennifer Gardner, Presentation to the EIM Body of State Regulators: RTO Governance Models: The Role of States (April 17, 2019), https://westernenergyboard.org/wp-content/uploads/2019/04/04-17-19-eim-bosr-gardner-rto-governance-models-role-of-states.pdf.
[85] *See* https://www.westerneim.com/Pages/Governance/EIMBodyofStateRegulators.aspx.

BOSR.[86] Additionally, the members of the BOSR are not restricted from taking any position before FERC or any other forum concerning matters related to the EIM or the CAISO. The BOSR's membership is comprised of one representative from each state public utilities commission in which load-serving regulated utilities participate in the EIM.[87]

SPP Western Energy Imbalance Service

SPP's RTO function provides an elevated role for state regulatory commissions through the Regional State Committee ("RSC"). The RSC has complementary Section 205 filing rights over transmission cost allocation and resource adequacy for the RTO's footprint. In contrast to both SPP's RSC and the EIM's BOSR, as WEIS is currently conceived, there will be no separate committee for state utility commission organization, education and representation. Instead, the current version of the WMEC Charter allows for state commission "liaisons" to the WMEC. State commission liaisons include "one commissioner from the regulatory commission of each state" in which a WEIS market participant has load or generation participating in the market.[88] However, state liaisons will not have a voting role on the WMEC and are only permitted to participate in an advisory capacity.[89] Additionally, because state regulatory commissions will not be able to organize independently of the WMEC, it will likely be more challenging for states to take unified positions on ongoing WEIS market design issues, as the BOSR has been able to do in the EIM.

[86] The BOSR has recently submitted comments to CAISO on the EDAM proposal and on EIM governance. These comments are available on the Western Interstate Energy Board website: https://westernenergyboard.org/library/eim-bosr/.
[87] *See* Charter, Energy Imbalance Market Body of State Regulators 1 (March 2016), https://westernenergyboard.org/wp-content/uploads/2016/03/03-01-16-EIM-Body-of-State-Regulators-Charter.pdf.
[88] WMEC Charter, p. 8.
[89] *Id.*

d) Market Entry and Exit Provisions

When considering a utility's participation in a market, it is important to consider the relative ease of entry into, and exit from, that market. This is because each market construct will have certain implementation costs associated with joining and, if circumstances change and net benefits do not materialize as expected, a utility may be forced to exit the market at a future date. Exit fees and processes that are overly burdensome may serve as an impediment to market participation. As a general rule, the start-up costs to join an EIM versus an RTO or ISO will be substantially less, as a real-time market offers relatively limited market services compared to an RTO.

CAISO Energy Imbalance Market

The start-up costs to join the EIM are minimal and ongoing participation in the EIM is considered voluntary. Also, there are no exit fees to leave the EIM. Ongoing fees to participate in the EIM are relatively small and are typically limited to a utility's share of CAISO's Grid Management Charge and any necessary software fees and increased staffing needs for the utility.[90]

Idaho Power provides an instructive example of how quickly utilities are able to pay off their EIM start-up costs. As part of its decision to join the EIM in 2016, Idaho Power estimated upfront costs of around $11.1 million, including start-up expenses of $1.7 million, software integration costs of $7.9 million, and metering upgrades of $1.5 million.[91] In addition to these upfront expenses, the utility estimated an ongoing operational expense of about $836,000

[90] According to CAISO, the Grid Management Charge "is the vehicle through which the [the CAISO] recovers its administrative and capital costs from the entities that utilize [its] services." California ISO, Training and Readiness Presentation: Grid Management Charge, http://www.caiso.com/Documents/GridManagementChargeTraining.pdf.
[91] Press Release, Idaho Public Utilities Commission, Idaho Power seeks authority to join western EIM (Sep. 20, 2016) (available at: https://puc.idaho.gov/press/160920_IPCEIM.pdf).

annually for labor and ongoing market and hosted software fees of about $786,000 per year.[92] An independent consultant hired by Idaho Power to study the costs and benefits of joining the EIM estimated potential cost savings of between $4 million and $5 million per year.[93] Idaho Power joined the EIM in April 2018 and since that time, has realized $49.02 million in gross benefits.[94] In fact, during its first year of participation in the EIM, Idaho Power realized $26.88 million in benefits – in other words, not only have actual benefits far exceeded predicted benefits, but the utility's initial investment of $11.1 million dollars was paid off in less than one year.

SPP Western Energy Imbalance Service

Start-up costs, ongoing costs, and costs to exit the WEIS market remain uncertain at this early stage of market design and development. According to the WJDA, SPP will incur certain costs to administer the WEIS, including costs for direct resources, system and maintenance, and debt service for financing capital expenditures.[95] To compensate SPP for these costs, during the first year of WEIS market operation, each participating utility will owe SPP $0.22 per MWh of Net Energy for Load ("NEL").[96] For each year thereafter, SPP will set an annual WEIS rate.

Withdrawal from the WEIS market requires written notice to SPP no less than 90 days prior to the effective date of termination and also requires an exit fee.[97] Exit fees are based on the timing of withdrawal in relation to the "initial term" of the WJDA. The "initial term" of the WJDA begins on the date the agreement is signed by the WEIS participating utility and SPP and

[92] *Id.*
[93] *Id.*
[94] *See* https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx.
[95] Amended and Restated Western Joint Dispatch Agreement, p. 1, available for download at: https://www.spp.org/spp-documents-filings/?id=200842.
[96] NEL means net generation on or interconnected to the WEIS market footprint plus energy received from others less energy delivered to others through interchange. It is measure in MWh/year. It includes system losses but excludes energy required for storage of energy at energy storage facilities. The WMEC may develop business practice associated with NEL. *Id.*
[97] *Id.* at p. 3.

continues for four years after the WEIS market begins operation.[98] If withdrawal occurs prior to the completion of the initial term plus four years (for a total of eight years), the utility will pay SPP its NEL share of remaining implementation costs plus the annual payment during the pendency of the notice of withdrawal. If the withdrawal takes place after the initial term, the utility will pay SPP the prorated annual payment during the pendency of the notice of withdrawal. However, if the utility withdraws to instead join SPP's RTO, it appears that the utility's obligation under the WJDA automatically terminates and any remaining fees will instead be applied toward that utility's cost of participating in the RTO.[99]

Therefore, in contrast to the EIM, a utility's decision to eventually leave the WEIS will come at a cost. Interestingly, exit fees will apparently be forgiven should a WEIS participant choose to exit the market to join SPP's RTO. While this membership creates an incentive for utilities to eventually join SPP's RTO and potentially realize additional market benefits, it also creates a disincentive for utilities to leave the WEIS and pursue other market options (outside of SPP) should expected benefits fail to materialize.

IV. Additional Workshop Topics for Consideration

In addition to Joint Commenters' previously suggested workshop topics, we recommend one additional workshop topic for the Commission's consideration in this proceeding: "Market Seams Coordination."[100] With two of WAPA's BAs already committed to participate in the WEIS, and with Public Service and the JDA participants still undecided but continuing to study the costs and benefits of joining either the EIM or the WEIS, there is the potential for a market seam to eventually form in Colorado. Even if Public Service and the JDA participants choose to

[98] *Id.* at pp. 2-3.
[99] *Id.* at p. 4.
[100] *See* Initial Joint Comments of WRA, WGG and NRDC, pp. 27-27.

join the WEIS market, a market seam would still form in the Western Interconnection between the WEIS and EIM markets, potentially with impacts to Colorado.

The proposed "Market Seams Coordination" workshop would therefore begin with the assumption that a market seam will eventually form in the Western Interconnection and that this seam will impact Colorado utilities. Specifically, any time resources are being dispatched across two market footprints, concerns develop regarding possible inefficiencies and possible under-utilization of utility assets. As an example, seams management and coordination – particularly transmission congestion management – has historically been a major issue for the Midcontinent Independent System Operator ("MISO") and its neighboring RTOs and ISOs, including SPP.[101]

This workshop topic would therefore review recent findings from the SPP and MISO Market Monitors and the RSC and Organization of MISO States' Liaison Committee in an effort to evaluate how, under a potentially bifurcated state, Colorado utilities and their respective market operators can proactively work together toward more efficient seams coordination. In addition to the lessons learned from the market seams experiences of MISO and SPP, and given the operational seams that will soon exist between the CAISO and SPP Reliability Coordinator services footprints in the Western Interconnection, Joint Commenters propose that the workshop also address market seams coordination from the CAISO perspective.

V. Conclusion

As noted in our previously filed comments, Joint Commenters support the development of organized markets in the Western Interconnection, including Colorado, because markets – whether in the form of an EIM or WEIS, an EDAM, or an RTO – represent substantial

[101] *See, e.g.,* MISO AND SPP, SEAMS WHITE PAPER FOR ORGANIZATION OF MISO STATES (OMS) AND SPP REGIONAL STATE COMMITTEE (RSCO) LIAISON COMMITTEE (2018), https://www.spp.org/documents/59006/spp-miso_rsc_oms_response_spp_miso_final_v3.pdf.

improvements to business as usual utility operations and serve as essential tools to decarbonizing the electric grid. Within the narrow framework of these reply comments, when evaluating real-time market options that are currently available to Colorado utilities, Joint Commenters have set forth the following market design and governance criteria for the Commission's consideration – (1) market benefits, (2) participation of flexible loads and distributed energy resources, (3) availability of emissions tracking, (4) transparent and balanced stakeholder process, (5) independent board of directors, (6) the role of states, and (7) market entry and exit provisions – and further, have compared and contrasted the CAISO Energy Imbalance Market and the SPP Western Energy Imbalance Service across these criteria.

While the EIM certainly benefits from its operational experience over the past four and a half years, the WEIS market is comparatively nascent, with certain elements of market design and governance having yet to be finalized. Despite this fact, given current WEIS market design and governance assumptions, there appear to be certain shortcomings in the WEIS proposal that should not be ignored by the Commission as it continues to evaluate market options in this proceeding:

- The current WEIS footprint is relatively small, particularly when compared to the EIM footprint. As previously discussed, the larger the market footprint, the greater the diversity of loads and resources, and the greater potential for market benefits.
- While CAISO has years of experience integrating DERs and flexible loads into its markets, SPP is just now beginning to take on this challenge. And, while the EIM's participants are able to take advantage of these resources by integrating

them as they would any supply side resource, it remains unclear whether WEIS market participants will have the same opportunity.

- The EIM has the ability to track emissions of greenhouse gases using CAISO's GHG tracking mechanism. While this mechanism currently only tracks emissions for the California footprint of the EIM, as other states like Colorado adopt their own GHG policies, CAISO has acknowledged the need for – and the ability of – the EIM's GHG tracking mechanism to adapt in order to accommodate other states' policies. By contrast, neither SPP's RTO nor its WEIS market offer a mechanism to track market-related emissions.
- The EIM's stakeholder process is modeled after the CAISO stakeholder process and welcomes the meaningful participation of all stakeholder groups (and all stakeholder groups have an equal opportunity to impact final tariff design). By contrast, in the WEIS stakeholder process, only the market's participants appear to have any meaningful influence over the market's design and future tariff filings.
- While the CAISO Board of Governors, the EIM Governing Body, and the SPP Board of Directors all meet FERC independence requirements for RTOs, the Western Markets Executive Committee (comprised only of utility members) does not. Given that the WMEC will have certain decision-making authority over the WEIS market design and eventual tariff filings at FERC, it should similarly be empowered to make market-level decisions independently from WEIS market participants.

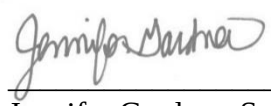
- The EIM's Body of State Regulators provides a forum for state regulatory commissions to actively learn about the EIM and to provide consensus-based recommendations to the CAISO Board of Governors, the EIM Governing Body, and CAISO staff and management regarding EIM governance and market rules. While a similar committee exists at SPP's RTO – the Regional State Committee – such a committee will not exist for the WEIS market. Instead, state regulator "liaisons" will be permitted to attend WMEC meetings and advise the WMEC on market issues, but otherwise, will not enjoy the elevated stakeholder status that state representatives currently have as part of the EIM BOSR and the SPP RSC.
- The EIM's voluntary membership, its relatively low start-up costs, and its lack of exit fees, have combined to make this real-time market offering incredibly appealing for western utilities and their regulators. While start-up cost estimates are not yet available for the WEIS, it is clear that exit fees will be charged for entities that choose to leave the WEIS market, and that these fees will be waived should those same entities instead choose to join SPP's RTO function. Such a membership structure is likely to make it far more challenging for utilities to leave the WEIS should anticipated benefits not materialize.

Finally, the potential for market seams across Colorado suggests additional complexity and costs that should be avoided if possible. However, assuming such a future is unavoidable, the Commission can learn from the experiences of other states and market operators (including SPP, MISO and the CAISO) regarding best practices for optimizing and coordinating across these seams. Joint Commenters recommend that the Commission more closely examine this issue as part of a Commission workshop in this proceeding.

Joint Commenters appreciate the opportunity to provide these comments and look forward to ongoing engagement in this proceeding.

Respectfully submitted,

WESTERN RESOURCE ADVOCATES



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