

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

PROCEEDING NO. 19M-0495E

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

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**ADDITIONAL COMMENTS OF  
WESTERN RESOURCE ADVOCATES,  
WESTERN GRID GROUP, AND  
INSTITUTE FOR POLICY INTEGRITY  
IN ADVANCE OF THE DECEMBER 1, 2021  
COMMISSION DECISION**

October 21, 2021

Western Resource Advocates (“WRA”), Western Grid Group (“WGG”), and the Institute for Policy Integrity at NYU School of Law (collectively, “Joint Commenters”) submit these Additional Comments in Proceeding No 19M-0495E.<sup>1</sup>

## INTRODUCTION AND RECOMENDATION

In accordance with the Colorado Transmission Coordination Act (“CTCA”),<sup>2</sup> in roughly six weeks, the Colorado Public Utilities Commission (“Commission”) will determine whether Colorado utilities’ participation in an energy imbalance market (“EIM”), a day-ahead market such as the Extended Day-Ahead Market (“EDAM”), a Regional Transmission Organization (“RTO”), or a joint tariff and power pool structure is in the public interest.<sup>3</sup>

Joint Commenters urge the Commission to recognize that *any* increase in utility coordination is beneficial, while also specifically finding that participation in a single, well-designed, Western RTO has the potential to provide the largest economic,

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<sup>1</sup> WRA and WGG have filed three previous sets of comments in this proceeding, and the Institute for Policy Integrity has filed one. WRA, WGG and the Natural Resources Defense Council filed joint initial comments on November 15, 2019 and reply comments on December 15, 2019 in response to Decision No. C19-0756. WRA, WGG, and Policy Integrity filed joint comments on July 16, 2021 in response to Interim Decision No. C21-0348-I. (These comments do not purport to reflect the views, if any, of NYU Law School.)

<sup>2</sup> Colo. Rev. Stat. §§ 40-2.3-101 and 102 (2020). All Statutory citations are to the 2020 Colorado Revised Statutes, as amended in the 2021 Session.

<sup>3</sup> The Commission is directed to consider “the potential costs and benefits to Electric Utilities, other generators, and Colorado Electric Utility Customers that would arise from Electric Utilities participating in any Energy Imbalance Markets, Regional Transmission Organizations, Power Pools, or Joint Tariffs” as well as “the potential advantages and disadvantages” of each market structure including its effect on ten legislatively specified considerations. § 40-2.3-102. In addition to the market structures identified in statute, the Commission identified the [EDAM](#) for inclusion in its evaluation. *See* Decision No. C19-0756, at ¶ 17.

reliability, and other nonquantifiable public-interest benefits that could best align with Colorado’s environmental and clean-energy policies.<sup>4</sup>

If the Commission makes findings consistent with our recommendations, Joint Commenters further recommend that the Commission focus the remainder of its investigation on identifying essential attributes of an RTO’s design and governance that would best promote Colorado’s energy policies in advance of the requirement that the Commission “direct utilities to take appropriate actions and conduct such proceedings as the Commission deems appropriate,” no later than July 1, 2022.<sup>5</sup>

## COMMENTS

### **I. The record in this proceeding is clear: Colorado utilities’ participation in a properly-designed Western RTO is in the public interest.**

As is well established by the record in this proceeding, enhanced coordination and market participation have the potential to reduce both operating<sup>6</sup> and capital costs,<sup>7</sup> increase reliability,<sup>8</sup> enhance integration of renewable resources,<sup>9</sup> reduce

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<sup>4</sup> § 25-7-102(2)(g), C.R.S.; § 40-2-125.5(3)(a)(I) and § 40-2-125.5(3)(a)(II), C.R.S.

<sup>5</sup> § 40-2.3-102(4), C.R.S.

<sup>6</sup> Automation over an enlarged geographic footprint with flow-based transmission reduces operating costs through a more efficient use of existing transmission and dispatch of energy, reduced need for flexibility reserves to support renewable integration, and, in the case of an RTO, reduced need for operating reserves. With a day-ahead market and/or an RTO construct, unit commitment is optimized, which decreases the number of generators online, reduces fuel burn, and, again, lowers operating cost.

<sup>7</sup> A day-ahead market and/or RTO structure has the potential to reduce capacity needs. Load diversity (as well as resource diversity) results in lowered capacity requirements to maintain the same level of reliability.

<sup>8</sup> Reliability is enhanced through automation using a security constrained economic dispatch (“SCED”), use of actual transmission availability in real time, and significantly enhanced wide-area situational awareness.

<sup>9</sup> Because of the larger geographic footprint, the intermittent nature of renewable generation is smoothed, reducing the need for flexibility reserves. In addition, a larger pool of generation is available to cost effectively ramp as needed.

renewable resource curtailments,<sup>10</sup> decrease emissions,<sup>11</sup> and could increase participation by flexible loads,<sup>12</sup> an important characteristic for future integration of high levels of clean energy. The evidence further shows that the scope and magnitude of benefits increase with the size and diversity of the geographical footprint considered and the services offered, with participation in an RTO providing the greatest potential benefit.<sup>13</sup>

With regard to the choice between the Southwest Power Pool (“SPP”) (linked to Colorado through potentially expanded direct current (“DC”) ties<sup>14</sup>) or a Western RTO (whether formed as incremental additions to existing California Independent System Operator (“CAISO”) services, some other incremental pathway, or as a brand new construct), the evidence demonstrates that a Western RTO would be the largest and most diverse,<sup>15</sup> would have the greatest potential to reduce the costs of new capacity,<sup>16</sup>

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<sup>10</sup> Load is pooled, and more dispatchable resources are available to back down and accept renewable generation to serve the pooled load within a larger geographic footprint.

<sup>11</sup> Emissions are reduced by reducing renewable resource curtailment and, in a day-ahead and/or RTO construct, by optimizing unit commitment such that less fuel is burned.

<sup>12</sup> Appropriate market design is essential.

<sup>13</sup> RTOs are more effective in reducing operating costs than are other market structures and can also reduce capacity needs. As an illustration of the superior ability of an RTO to reduce operating costs, the State-Led Market Study found that an “RTO construct provides approximately eight times greater operational benefits than a real-time only market.” See State Led Market Study, Technical Report, July 30, 2021, at 39. In addition to reducing operational costs, an RTO reduces capacity needs resulting from greater load diversity across the larger footprint. As an illustration of reduced capacity needs, the study prepared by Siemens Power Technologies International for the Commission titled Colorado Transmission Coordination Act Evaluation of Market Alternatives, dated June 10, 2021 (“Siemens Study”) estimates that joining an RTO reduces the cost of meeting Colorado’s emission reduction targets by between \$2 billion and \$2.5 billion over a 20-year planning period, primarily by reducing the need for battery storage. See Siemens Study, at 3-5. Both studies found that the ability of a single market to reduce costs was greater than if load and generation were split between two markets.

<sup>14</sup> To operate at levels relevant to expanded market operations, DC ties appear to require substantial investment.

<sup>15</sup> SPP is significantly smaller than the WECC region and does not possess the same diversity of weather, loads, renewable resource availability, length of time when solar resources are available, hydro resources available in the region, and state clean energy policies.

<sup>16</sup> The Siemens Study results demonstrate the superior ability of a Western RTO to reduce capacity costs, as compared to an SPP RTO. In the Siemens Study, the WECC RTO reduced fixed

and would best enhance reliability.<sup>17</sup> In addition, the environmental policies of other states in the West best align with Colorado’s energy policies.<sup>18</sup> Furthermore, because a west-wide RTO is not yet established, the Commission, Colorado utilities, and interested Colorado stakeholders have opportunities to substantially influence a Western RTO’s design and governance to reflect and accommodate Colorado’s needs.<sup>19</sup>

**II. In advance of the July 1, 2022 deadline to provide direction to utilities, the Commission should evaluate and determine the essential attributes of RTO market design and governance that would best support Colorado’s energy and economic goals and result in the greatest public good.**

It appears that opportunities to meaningfully engage in western wholesale energy market formation could be on the horizon. On September 16, CAISO announced the revival of the EDAM with a forum held on October 13.<sup>20</sup> In advance of that announcement, twelve utilities with transmission spanning the Western

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and capital costs by 8% over the reference case. The SPP RTO reduced fixed and capital costs by 6.3%. The WECC RTO reduced capacity costs more than the SPP RTO despite assumed higher modeled planning reserve margins for the WECC footprint than for the SPP footprint. *See* Siemens Study, Exhibit 32, at 42.

<sup>17</sup> The Western Interconnection’s transmission system is often described as a large donut circling the largely unpopulated Great Basin, Grand Canyon, and other natural features, with weak connections to the eastern side of the interconnection. With one RTO operating the larger grid, its operator would have the largest wide-area view and control over most of the interconnection. When two or more markets exist, the wide-area view shrinks, and a “seam” is created between the different designs, rules, and business practices of the markets that inevitably lead to transactional frictions and gaps in the delivery of power, thereby reducing reliability and economic benefits compared to operation of a single market. If an SPP RTO were to operate in the West, a seam would be created that exceeds the seam already created by operation of the WEIS.

<sup>18</sup> *See* Initial Comments of Western Resource Advocates, Western Grid Group and Institute for Policy Integrity in response to Interim Decision No. C21-0348-I, July 16, 2021, at 19-20.

<sup>19</sup> “Colorado’s needs” could include statutorily defined policies, other public interest objectives, and consumer concerns.

<sup>20</sup> Elliot Mainzer, CAISO’s CEO, kicked off the October 13 EDAM Forum and described how CAISO and Californian and EIM utilities had worked together through the summer to find common ground. His address was followed by a panel discussion of utility executives, a technical panel that addressed the “[Common Design Principles and Concepts](#)” agreed to over the course of the summer, and a panel of regulators and other non-utility stakeholders responding to the previous two panels. Starting in November 2021 and continuing through December 2022, CAISO will conduct workshops and release straw proposals in key design areas with the intent to finalize the EDAM proposal by December 2022. The EDAM is expected to be fully operational in 2024.

Interconnection announced that they have been meeting informally to explore “the potential for a staged approach to new market services, including day-ahead energy sales, transmission system expansion, and other power supply and grid solutions consistent with existing state regulations.”<sup>21</sup> Referring to themselves as the Western Market Exploratory Group (“WMEG”), the twelve include Xcel Energy–Colorado, Black Hills Corporation, and Platte River Power.<sup>22</sup>

Joint Commenters are encouraged by these developments. We support efforts to further market development and establish a Western RTO, whether it be through a staged EDAM approach, some other incremental pathway, or rapid transition to an RTO, as long as the approach to market development includes meaningful opportunities for stakeholder input and transparent decision making.

In July, 2022, the Commission must give direction to its utilities.<sup>23</sup> Joint Commenters encourage the Commission to use the six-month period between its December 1, 2021 public interest determination and its July 1, 2022 direction to its utilities to engage in the revived EDAM effort and to further investigate through comments, technical conferences, and public comment hearings, which essential attributes of an RTO market design and governance would best support Colorado’s energy and economic goals and result in the greatest public good. More specifically, Joint Commenters encourage the Commission to consider (1) independent and fair governance; (2) market design that supports clean energy development and demand

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<sup>21</sup> See for example [Xcel Energy’s press release](#) dated October 5.

<sup>22</sup> Arizona Public Service, Idaho Power, NV Energy, PacifiCorp, Portland General Electric, Puget Sound Energy, Salt River Project, Seattle City Light, and Tucson Electric Power are also participants in the WMEG.

<sup>23</sup> §§ 40-2.3-102(4), C.R.S.

flexibility solutions; (3) requirements and tools for measuring greenhouse gas emissions; and (4) transparency in market performance and reporting. Results of this investigation could further dialogue for emerging western market formation so a viable Western RTO could be in place ahead of the statutory deadline for RTO participation by 2030.

## CONCLUSION

Joint Commenters appreciate the Commission's consideration of these comments as it deliberates ahead of its December 1 public interest determination. We recognize the record in this investigatory proceeding is already substantial, since it includes key studies and other information from past investigations as well as the voluminous information introduced directly in this proceeding including the multiple submittals of interested stakeholders in response to the Commission's requests for comments, the Siemens Study, the State-Led Market Study, and presentations and information from the many "permit but disclose" *ex parte* meetings. Joint Commenters' intention is to provide a high-level summary of conclusions to inform the Commission's next steps.

Finally, we would like to express our appreciation for the Commission's ongoing leadership in Western market development. This Commission has been a leader in furthering market development through active investigations since at least 2011, and Joint Commenters are grateful for the Commission's continued interest and engagement.

Dated this 21st day of October 2021.

Respectfully submitted,

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