

**BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA**

Investigation regarding the Energy Choice Initiative )  
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Docket No. 17-10001

**CLOSING COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation (ISO) respectfully submits these comments in response to Chairman Reynold’s request for closing comments in this proceeding. The Public Utilities Commission of Nevada (Commission) held a series of workshops in this proceeding to “investigate issues of public importance regarding the pending Energy Choice Initiative and the possible restructuring of Nevada’s electric industry.”<sup>1</sup> The ISO actively participated in these workshops, specifically focusing on the “[o]ptions reasonably available to Nevada in designing and establishing a wholesale market.”<sup>2</sup> As the ISO has stated throughout this investigation, Nevada is well positioned to benefit from increased wholesale market participation with the ISO due to the transmission connectivity and load and generation diversity of the Nevada and ISO electric systems. As a result, the ISO recommends that Nevada explore the potential benefits of wholesale market participation in advance of the Energy Choice Initiative (ECI) vote as a “no regrets” policy decision that is worth exploring regardless of the outcome of the ECI vote.

In these comments, the ISO provides recommendations regarding potential next steps that Nevada could consider in determining its wholesale market options. The ISO also provides additional details regarding its cost structure and the key structural elements of a potential regional-ISO framework. Lastly, the ISO provides a summary of the process and timeline associated with incorporating a new participating transmission owner, such as NV Energy, into the ISO’s balancing authority area.

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<sup>1</sup> Notice of Energy Choice Initiative Investigation and Workshop, p. 1.

<sup>2</sup> *Id.*

## **I. Discussion**

### **A. The ISO Supports Studying Nevada Wholesale Market Options**

The ISO continues to support further study of wholesale market options. During the course of this proceeding, the ISO outlined the significant financial benefits that NV Energy's ratepayers have experienced through participation in the ISO's western Energy Imbalance Market (EIM). With an additional \$6.45 million in benefits in the fourth quarter of 2017, the western EIM has delivered approximately \$40 million in benefits to NV Energy and its customers since implementation in fall of 2015.<sup>3</sup> These benefits well exceed estimated benefits calculated prior to implementation<sup>4</sup> and they continue to grow on a year-over-year basis.<sup>5</sup>

Although the western EIM benefits have been significant, there are reasons to believe that full participation in the ISO's wholesale market will produce additional benefits. Full participation in the ISO's wholesale market would allow Nevada to capitalize on the strong transmission interconnections, generation resource diversity, and load diversity that it has with the ISO. Unlocking these synergies between the ISO and Nevada electric systems would allow for more economic dispatch of generation units, optimized resource planning, reduced reserve requirements, and other potential benefits. The ISO recommends that Nevada study and quantify these potential benefits now, so that it could take action on wholesale market options regardless of the outcome of the November 2018 ECI vote.

The ISO has engaged in similar studies of regionalization benefits and has some insight into potential costs of such a study. Based on the ISO's experience, Nevada could expect to expend about \$250,000 to study the benefits of regionalization. This figure, however, is highly dependent upon the scope of the study and the number of sensitivities included.

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<sup>3</sup> NV Energy's fourth quarter 2017 benefits were approximately \$6.45 million. [https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ4\\_2017.pdf](https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ4_2017.pdf).

<sup>4</sup> The ISO and NV Energy economic assessment of EIM benefits issued in April 2014 estimated NV Energy's annual benefits in the range of \$6-10 million in 2017, increasing to \$8-12 million in 2022.

<sup>5</sup> NV Energy's fourth quarter 2016 benefits were approximately \$3.07 million. [https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ4\\_2016.pdf](https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ4_2016.pdf).

## **B. Developing Regional Governance**

At the Commission's January 29, 2018 workshop, Chairman Reynolds indicated that it may be appropriate for the legislature to direct a Nevada task force, entity, or individual to communicate with the ISO on a possible governance structure.<sup>6</sup> The ISO agrees that direct high-level contact between Nevada and California officials would be beneficial in discussing options for a revised governance structure that supports the region's needs. The ISO stands ready to assist in initiating those discussions.

The ISO also highlights previous work developing a Western States Committee as part of its governance efforts.<sup>7</sup> As part of work pursuant to California Senate Bill 350 (2015) to develop potential modifications to the ISO's governance structure to allow for the transformation to a regional market operator, the ISO proposed establishing a Western States Committee to provide input on matters of collective state interest. As proposed, the committee would be composed of a representative from each state within the ISO footprint. States would be encouraged to appoint a utility commissioner or another state official familiar with utility regulatory or energy policy issues. The ISO proposed that a Western States Committee would have a level of authority over certain regional ISO policy initiatives on specific topics within the subject areas of transmission cost allocation and resource adequacy, both of which are discussed in more detail below. While the proposed structure of a Western States Committee has not been finalized or adopted, it provides a solid foundation on which State officials can build if they choose to pursue collaboration on governance developments.

Additionally, the ISO is continuing to monitor and support discussions on ISO governance structure at the California legislature. There are two active California State Assembly Bills (AB 726 and AB 813)<sup>8</sup> that relate to the transformation of the ISO to a regional organization, which would lead to a change in the ISO's governance. There may be interest from Nevada officials to monitor action on these bills, or other language developed through the

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<sup>6</sup> Transcript at 1107:20-1108:8.

<sup>7</sup> The California Energy Commission (CEC) conducted a series of workshops on governance that can be accessed at: [http://www.energy.ca.gov/sb350/regional\\_grid/documents/](http://www.energy.ca.gov/sb350/regional_grid/documents/). Specific governance principles were developed during this process. The most recent set of governance principles, which outline the potential role of the Western States Committee, can be accessed at: [http://docketpublic.energy.ca.gov/PublicDocuments/16-RGO-01/TN213926\\_20161007T124539\\_Principles\\_for\\_Governance\\_of\\_a\\_Regional\\_ISO.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-RGO-01/TN213926_20161007T124539_Principles_for_Governance_of_a_Regional_ISO.pdf).

<sup>8</sup> California Assembly Bill 726 can be accessed at: [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180AB726](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB726). Assembly Bill 813 can be accessed at: [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180AB813](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB813).

legislative process in California. If helpful, the ISO can provide relevant updates to the Commission or other appropriate Nevada representatives.

### **C. Summary of Wholesale Market Implementation and Participation Costs**

At the January 17 and 25, 2018 workshops, the ISO presented a high-level estimate of costs associated with full participation in the ISO wholesale markets. As explained during those workshops, the ISO primarily has insight into the cost elements that are attributable to, or collected by, the ISO. These costs can generally be classified into three categories: (1) ISO implementation costs, *i.e.*, costs that the ISO will incur to upgrade its systems that will be borne by new participating transmission owners that join the ISO system; (2) ISO grid management charges (GMC), *i.e.*, annual charges associated with the ISO's ongoing operations, maintenance and capital expenses; and (3) transmission access charges (TAC), *i.e.*, charges collected by the ISO on behalf of transmission owners that recover the costs of transmission infrastructure. The ISO provides further detail on the estimated cost and structure of these charges in the subsections below.

The ISO also separately has experience with conducting benefit studies similar to those suggested in Section A above. The ISO shares information regarding that experience in this section as well.

#### ***1. ISO Implementation Costs***

As the ISO explained at the January 25, 2018 workshop, the ISO expects there will be some level of ISO implementation costs associated with a transition to full participation. Because NV Energy is already a western EIM member, the ISO expects that the incremental implementation costs will be less than \$500,000 to incorporate the NV Energy system. This compares to \$1.1 million in implementation costs that NV Energy paid to the CAISO to join the western EIM. These estimated costs include only those costs necessary to upgrade the ISO systems and do not include any costs that NV Energy, as the participating transmission owner, would incur to upgrade its systems or software. This estimate also does not include implementation costs for incorporating non-NV Energy owned transmission into the ISO controlled system, though the ISO expects its incremental costs for such implementation would be minimal.

## **2. *Grid Management Charge (GMC)***

The GMC is the vehicle through which the ISO recovers its annual revenue requirement from entities that use ISO services. Funding the annual revenue requirement ensures that the ISO recovers its administrative, operating, and capital costs. The ISO's annual revenue requirement is currently capped at \$202 million per year, but the actual revenue requirement to be collected is set annually as part of the ISO's public budgeting process. The budgeting process is an open and transparent stakeholder process that takes place each year. Stakeholders are given the opportunity to review the ISO's budget, provide comments and voice concerns to ISO staff, management, and its Board of Governors. The ISO's 2018 fiscal year actual budget is \$197.2 million. The ISO developed its GMC rate design based on a cost of service study that allocates ISO costs into three service categories: (1) market services (32% of annual ISO costs), (2) system operations (66%), and (3) congestion revenue rights (2%). Generally, the ISO GMC is charged to load-serving entities and generators roughly equally on a per megawatt-hour (MWh) basis.

Based on the structure of GMC and NV Energy's known load data, the ISO is able to estimate the annual share of GMC that would be allocated to load and generation currently part of the NV Energy system at approximately \$21-27 million. As stated above, this cost would be collected roughly equally from load-serving entities and generators. Load-serving entities would likely pass this cost through to end use customers, while generators would factor the charge into their cost for energy. The exact figure would vary based on the relative energy consumption of all ISO market participants. The ISO notes that the estimate provided in this section does not include GMC costs to serve non-NV Energy related customers because the load data for such customers is not readily available to the ISO. The ISO's GMC cost to serve the entire state of Nevada would therefore be slightly higher if the remainder of the state's load and resources were considered.

## **3. *Transmission Access Charge (TAC)***

The TAC is a charge collected by the ISO to recover the transmission revenue requirements for participating transmission owners. The ISO does not retain any portion of the TAC for its own operations. The TAC is functionally equivalent to NV Energy's existing transmission charges. If NV Energy joined the ISO as a participating transmission owner, its

transmission costs would be recovered through the TAC mechanism. The ISO is committed to an open and transparent stakeholder process to develop a TAC structure that will suit a regional framework. As discussed below, the ISO has already made significant progress in developing a regional TAC framework, but additional work will be required if Nevada elects to join the ISO's wholesale market.

i. TAC Regional Framework Development

As part of previous regionalization efforts, the ISO worked with regional stakeholders to assess TAC options for integrating new participating transmission owners into the ISO. During this process, the ISO developed a draft regional framework proposal for allocating and collecting TAC in a regional ISO.<sup>9</sup> The draft framework provides a “close to final” proposal, meaning that it reflects best efforts to find a reasonable, workable balance among the various positions presented during the stakeholder initiative. If NV Energy or other Nevada transmission owners choose to join the ISO, this framework would be revisited to ensure that it meets Nevada's specific needs then finalized for filing with the Federal Energy Regulatory Commission (FERC) and codification in the ISO tariff.

ii. TAC Regional Framework Principles

During the TAC regional framework development, the ISO and stakeholders developed principles for TAC cost recovery. The first principle distinguishes between existing and new transmission facilities for cost allocations purposes. As the ISO explained during the Commission's workshops, cost recovery for existing facilities would not change with entry into the ISO. Nevada and/or the NV Energy transmission system would be considered a new “sub-region” within the ISO; customers would continue to pay the same costs for existing facilities that they would have paid if they remained separate. Similarly, the existing ISO system would be considered a separate “sub-region” and existing ISO customers would continue to pay for the existing transmission costs of the ISO system. In this manner, neither Nevada nor ISO customers would pay the embedded costs for the other's existing transmission facilities.

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<sup>9</sup> The ISO's Transmission Access Charge Options for Integrating New Participating Owners Draft Regional Proposal can be accessed at: <http://www.caiso.com/Documents/DraftRegionalFrameworkProposal-TransmissionAccessChargeOptions.pdf>.

In a combined system, new transmission projects would be identified through the ISO's transmission planning process. The cost of new facilities would be allocated depending on the classification of the transmission facility and the benefits it provides to customers within each sub-region. Under the ISO's transmission planning process, new transmission projects are classified as either (1) reliability, (2) policy-driven, or (3) economic. Below, the ISO provides a high-level overview of how costs would be allocated for each type of project under the draft regional framework.

*a. Reliability Projects*

Reliability projects are those that are necessary to meet applicable reliability standards, such as those promulgated by the North American Electric Reliability Corporation (NERC) or the Western Electricity Coordinating Council (WECC). Under the draft regional framework, a reliability project within a sub-region that addresses a reliability need of that sub-region would be allocated entirely to that sub-region. This means that a reliability transmission project located solely inside California serving California reliability needs would not be allocated to NV Energy customers.

*b. Policy-driven Projects*

Policy-driven projects are identified in the ISO's transmission planning process to meet federal, state, or local public policy goals. For example, the ISO currently identifies projects that are deemed necessary to support California's renewable portfolio standard. Under the draft regional framework, the cost of policy-driven project within a sub-region that supports policy mandates for that sub-region only will be allocated to that sub-region. If a policy-driven project supports the policy mandates of more than one sub-region, or is built in one sub-region to meet the policy benefits of another, the ISO will calculate the economic benefits of the project and allocate costs to each sub-region in proportion to the sub-region's benefits, but only up to the point where each sub-region's cost share equals the sub-region's benefits.

*c. Economic Projects*

Economic projects are those in which the economic benefits must exceed the cost of the project. The costs for such projects would be allocated to sub-regions in proportion to each region's economic benefits.

*d. Further Development and Opportunity for Nevada Stakeholder Input*

This discussion provides a general overview of the ISO's regional TAC options stakeholder initiative that has necessarily been simplified for the purpose of clarity. Prior to finalizing this framework, it would be necessary to incorporate feedback from Nevada stakeholders to ensure that Nevada market participants and ratepayers are treated in a fair and acceptable manner. As the ISO mentioned above, the Western States Committee, with Nevada representation, could also have a significant role in approving the final regional TAC framework.

**D. Resource Adequacy**

Several parties requested information regarding how resource adequacy would be established if the ISO expanded to provide regional wholesale market services. As part of its regional stakeholder initiatives, the ISO worked with stakeholders to develop a draft regional framework proposal for regional resource adequacy. Much like the draft regional framework for TAC options, the regional resource adequacy proposal provides the best resolution of the relevant issues, but it would need to be reviewed by Nevada stakeholders and modified appropriately in a public process before finalizing and filing with FERC for incorporation into the ISO tariff. The ISO presents the fundamental principles developed in the regional resource adequacy stakeholder process below.<sup>10</sup>

**1. Load Forecasting**

The ISO proposed a monthly coincident peak load forecasting aggregation to develop system resource adequacy needs. This approach would use individual load-serving entity forecasts to identify load-serving entity resource adequacy requirements and determine system needs by consolidating individual load-serving entity forecasting data. The primary benefit of this approach is a lower overall level of procurement due to the individual systems hitting their peak loads at a different time than the overall system. The proposal would allow local regulatory agencies (such as this Commission) to oversee individual load-serving entity forecasting and to retain established processes and provide input into the load forecast development and the

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<sup>10</sup> The ISO's Regional Resource Adequacy Draft Regional Proposal can be accessed at: <http://www.caiso.com/Documents/RegionalFrameworkProposal-RegionalResourceAdequacy.pdf>.

coincidence factor methodologies their jurisdictional load-serving entities utilize.

## **2. *Reliability Assessment***

The ISO proposed to conduct a reliability assessment using a default system-wide planning reserve margin and ISO-determined resource adequacy capacity valuations based on uniform counting rules. The proposed reliability assessment is designed to mitigate the potential for undue “leaning” on the system by individual entities.

The ISO also proposed modifications to incorporate the updated reliability assessment into the ISO’s backstop procurement provisions. The ISO proposed to exercise backstop procurement based on any shortfalls between the demonstrated procured capacity and the reliability assessment using the default system wide planning reserve margin.

This reliability assessment and backstop process was the subject of considerable stakeholder debate and, similar to the other issues above, would need to be revisited.

## **3. *Resource Adequacy Allocation***

Under the ISO’s proposal, the local regulatory agency (such as the Commission) would have the authority to allocate resource adequacy requirements amongst load-serving entities under its jurisdiction. In the alternative, the local regulatory agency could defer to the ISO to allocate resource adequacy requirements which would be based upon the ISO’s default allocation methodologies.

## **4. *Further Development and Opportunity Nevada Stakeholder Input***

The discussion above provides a high-level overview of the regional resource adequacy proposal developed by the ISO, but it does not constitute a final proposal. If NV Energy or some other Nevada entity moves toward joining the ISO, it would be imperative to incorporate feedback from Nevada stakeholders to ensure that the agreed upon framework treats Nevada market participants and ratepayers in a fair and acceptable manner. As the ISO mentioned above, a Western States Committee, with Nevada representation, could also have a significant role in approving the final regional resource adequacy framework.

## **E. Timeline**

At the January 25, 2018 Workshop, the ISO explained the scope of activities it would need to undertake if a new entity, such as NV Energy, joined the ISO as a participating transmission owner. The ISO explained that these activities would take approximately 24-26 months to complete, but that other activities outside of the ISO's control could impact the timeline. In the subsections below, the ISO explains the timeline for the activities it would need to undertake to incorporate a new entity as a participating transmission owner.

### ***1. Complete Regional Stakeholder Initiatives and Modify the Existing ISO Tariff***

As explained in sections C.2 and C.3 above, the ISO has two outstanding regional stakeholder initiatives regarding TAC options and a regional resource adequacy framework. If NV Energy or another entity sought full participation, the ISO would need to finalize the regional stakeholder initiatives with input from regional stakeholders. Once the ISO and stakeholders agreed to a regional framework for both TAC and resource adequacy, the ISO would prepare an application to amend its tariff with FERC. These tariff amendments would codify the TAC and resource adequacy structure developed through the stakeholder processes. FERC would then need to approve the tariff amendments before the ISO could begin formal implementation. The ISO estimates that this process of completing the outstanding stakeholder initiatives, modifying the existing tariff and filing for FERC approval would take approximately 12-18 months in total.

### ***2. Implementation, Network Modeling and Market Simulation***

After FERC approval of the updated regional TAC and resource adequacy tariff amendments, the ISO would need to implement any new software upgrades and update its network modeling to ensure that the new participating transmission owner's assets can be reliably operated and integrated into the ISO's markets. The ISO will also need to ensure that participating generator assets are modeled and able to participate in the ISO markets. In this effort, the ISO will be able to leverage the resources and modeling already in place as a result of NV Energy's participation in the western EIM. Once network modeling is completed, the ISO will have an opportunity for market simulation prior to full integration. This will allow market participants to test their systems and procedures in advance of financially binding market

operations. The ISO expects that implementation, modeling and market simulation processes will take another 12-18 months.

### 3. *Other factors*

Other factors outside of the ISO's control could also impact the timeline. Two significant factors that could impact the timeline include Nevada legislative and/or regulatory approvals and finalization of governance structures. These processes could vary in length of time to complete, but the ISO believes that these process could be accomplished concurrently with some of the ISO processes outlined above.

## II. **Conclusion**

The ISO appreciates this opportunity to provide comments here and throughout this investigation. As the ISO has stated throughout this proceeding, Nevada is uniquely situated to benefit from increased wholesale market participation with ISO. The ISO looks forward to supporting the state in exploring the benefits of wholesale market participation and how to best deliver those benefits to Nevada ratepayers.

Respectfully submitted,

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Dated: February 16, 2018

## CERTIFICATE OF SERVICE

I hereby certify that I have on this 16<sup>th</sup> day of February, 2018, caused to be served by electronic mail a true and correct copy of *Closing Comments of the California Independent System Operator Corporation* on each of the following in Public Utilities Commission of Nevada Proceeding No. 17-10001:

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Dated this 16<sup>th</sup> day of February, 2018, at Folsom, California.

By: /s/ Grace M. Clark  
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