



**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF CALIFORNIA**

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Order Instituting Rulemaking to Develop an  
Electricity Integrated Resource Planning  
Framework and to Coordinate and Refine  
Long-Term Procurement Planning  
Requirements.

Rulemaking 16-02-007  
(Filed February 11, 2016)

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

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**I. Introduction**

The California System Operator Corporation (CAISO) hereby provides comments on the *Proposed Decision Adopting Preferred System Portfolio and Plan for 2017-2019 Integrated Resource Plan Cycle* (Proposed Decision), issued in this proceeding on March 18, 2019. The Proposed Decision reflects a tremendous amount of work by the Commission and Energy Division staff. The CAISO appreciates this work and the Commission's and Energy Division staff's responsiveness to suggestions regarding the need for additional production cost modeling, more realistic natural gas retirement assumptions, and opportunities for modeling parties to provide input into the process. In particular, the CAISO appreciates the close collaboration with Energy Division staff to coordinate integrated resource planning (IRP) process outputs and transmission planning deadline. The CAISO also appreciates that Energy Division staff has worked to provide an opportunity to incorporate the modeling parties' reliability expertise into this proceeding.

**II. Discussion**

The CAISO supports the Proposed Decision as the reasonable conclusion of this first IRP cycle. The CAISO's comments primarily address the continued need for coordination between Commission and CAISO planning and procurement processes and continued work to improve the reliability modeling within the IRP. Specifically, the CAISO addresses the following topics:

- (1) CAISO transmission planning process modeling of the Proposed

Decision's resource portfolios and sensitivities;

- (2) The need for both additional reliability analyses of the Preferred System Portfolio and more coordination between the Commission's resource adequacy and integrated resource planning proceedings; and
- (3) The CAISO's support for the future IRP process improvements outlined in the Proposed Decision, including commencement of a procurement track in the next IRP cycle.

**A. The CAISO Will Model the Portfolios Specified in the Proposed Decision in the 2019-2020 Transmission Planning Process.**

The Proposed Decision recommends that the CAISO use a single Preferred System Portfolio (PSP) as the reliability base case and the policy-driven base case for the 2019-2020 transmission planning process.<sup>1</sup> The recommended PSP is a modified version of the Reference System Portfolio with 2017 IEPR assumptions and a 40-year lifetime assumption for fossil resources. The CAISO will use the PSP as recommended because Commission direction on state policy is a key input into the transmission planning process. The CAISO appreciates that the Commission recommended a single base case for both the reliability and policy-driven base case (as well as the economic assessment), consistent with the CAISO's request in previous comments.<sup>2</sup> In addition, the Proposed Decision recommends that the CAISO study two additional policy-driven sensitivities.<sup>3</sup> The CAISO agrees and will study the policy-driven sensitivities in the 2019-2020 transmission planning process. This analysis will provide valuable feedback for the IRP and will identify any reliability concerns and necessary improvements that should be prioritized in the 2019-2020 IRP cycle. The CAISO looks forward to coordinating with the Commission, Energy Division staff, and parties to present this information.

**B. The Commission Should Continue to Analyze the Reliability of the PSP and Coordinate its Planning and Procurement Processes.**

The CAISO recommends that the Commission specify that it will continue to assess the reliability of the PSP in the 2019–2020 IRP cycle. It should also ensure that

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<sup>1</sup> Proposed Decision, p. 116.

<sup>2</sup> CAISO Comments, *Administrative Law Judge's Ruling Seeking Comment on Proposed Preferred System Portfolio and Transmission Planning Process Recommendations and Attachments A and B* (January 31, 2019), p. 12.

<sup>3</sup> Proposed Decision, p. 117.

the Commission's IRP and resource adequacy proceedings are aligned from a reliability-based perspective.

## **1. Additional PSP Reliability Modeling**

In adopting the modified Reference System Portfolio<sup>4</sup> as the PSP, the Proposed Decision notes that the adopted portfolio was not studied through production cost modeling, but states that “the portfolio can be inferred to be reliable.”<sup>5</sup> This conclusion is based on Energy Division staff's operational results presented in the September 24, 2018 Administrative Law Judge ruling and additional calibrated loss of load expectation (LOLE) modeling using retirement assumptions in excess of a 40-year retirement assumption.<sup>6</sup> As the CAISO previously noted, Energy Division staff's methodology presented at that time decreased the system reliability target from a 1-day-in-10 years LOLE (*i.e.*, 0.1 LOLE) to a 3 days-in-10 years LOLE (*i.e.*, 0.3 LOLE) in the calibrated LOLE study.<sup>7</sup> Therefore, the Commission should not assume the PSP is reliable on this basis alone, but rather should conduct additional studies in the 2019-2020 IRP cycle to assess reliability.

The CAISO notes that the Proposed Decision also cites Southern California Edison Company's (SCE's) PLEXOS modeling results on a portfolio similar to the PSP “demonstrating that this system would be operable and reliable at the system level.”<sup>8</sup> However, SCE indicated that its recent analyses show reliability concerns as early as 2021.<sup>9</sup> The Commission has not had the opportunity to review this analysis in this proceeding, but the Commission should seek to reconcile the recent statements with

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<sup>4</sup> As described and adopted in the Proposed Decision (p. 109), the “adjusted Reference System Portfolio” is the Reference System Portfolio utilizing the 2017 Integrated Energy Policy Report and a 40-year life for fossil-fueled resources, as a proxy for potential retirements.

<sup>5</sup> Proposed Decision, p. 107.

<sup>6</sup> *Id.*

<sup>7</sup> CAISO Comments, *Administrative Law Judge Ruling Seeking Comments on Production Cost Modeling* (October 10, 2018), pp. 5-8.

<sup>8</sup> Proposed Decision, p. 107.

<sup>9</sup> See for example: *Transcribed Testimony of Opening Remarks of Colin Cushnie, Vice President, Energy Procurement & Management, Southern California Edison, Senate Energy Information Hearing* (March 19, 2019). Available at: [https://seuc.senate.ca.gov/sites/seuc.senate.ca.gov/files/03-19-19\\_cushnie\\_testimony.pdf](https://seuc.senate.ca.gov/sites/seuc.senate.ca.gov/files/03-19-19_cushnie_testimony.pdf). The testimony notes that reliability concerns starting as early as 2021 were “socialized” with the CAISO but only high level conclusions have been provided and CAISO has not been able to conduct any independent verification or analysis. See also: Southern California Edison Company's (U 338-E) *Notice of Ex Parte Communication* (March 27, 2019).

SCE's prior results by vetting the updated analysis during the 2019 – 2020 IRP cycle.

As the Commission did not publish the detailed PSP portfolio until April 3, 2019, neither the CAISO nor any other party has had the opportunity to perform a reliability assessment of the PSP at this time. Because additional reliability analysis is necessary, the Commission should not conduct procurement based on the PSP. Instead, the PSP should be vetted and improved as the Commission undertakes the new procurement track in this proceeding. The next IRP cycle should also explore more diversified portfolios, including a deep decarbonization portfolio to position the system to meet Senate Bill 100 long-term goals.

## **2. Coordination Between IRP and Resource Adequacy**

The Proposed Decision notes that “this initial IRP process signaled the need for closer coordination on reliability issues and resource adequacy.”<sup>10</sup> The CAISO agrees and urges that in both proceedings the Commission should carefully consider resource capacity and energy availability to maintain system reliability. Imports and storage resources provide two relevant examples that illustrate the need to consider both capacity and energy availability in planning and procurement, in both the IRP and the resource adequacy proceeding.

With respect to imports, the CAISO notes that Energy Division staff's modeling on the Reference System Portfolio assumed that energy could be imported up to the 11,600 MW maximum import capacity limit at any time.<sup>11</sup> Based on the CAISO's operational experience during summer stressed conditions, the CAISO has found that import resources that do not have a resource adequacy contract for capacity should not be relied on for *energy* in the CAISO market.<sup>12</sup> During 2017 and 2018, the CAISO observed that energy imports fell below the maximum import limit during and near peak system conditions.<sup>13</sup> The Commission cannot reasonably assume that import resources without resource adequacy contracts will be available to provide energy to serve load during peak system conditions.

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<sup>10</sup> Proposed Decision, p. 149.

<sup>11</sup> *Administrative Law Judge's Ruling Seeking Comment on Production Cost Modeling*, (September 24, 2018), Attachment B, slide 23.

<sup>12</sup> CAISO Comments, (January 31, 2019), Appendix A, pp. 22-23.

<sup>13</sup> *Id.*, Appendix A, p. 36.

In addition, new technologies, such as storage, exemplify the complicated relationship between capacity and energy. The modeling frameworks and the effective load carrying capacity methodology optimize storage based on variable costs, assuming storage is highly flexible. It may seem reasonable to assume that storage resources will continuously charge and discharge to leverage solar generation profiles; however, storage providers claim that frequent cycling causes significant cell degradation, which increases maintenance and replacement costs that are not considered in the modeling. With this constraint, new technology resources, such as storage, may not have a viable business model based on frequent cycling if the costs of doing so are so high due to cell degradation and replacement costs. Thus, if storage cycling is restricted, the energy associated with these resources—and, consequently, the reliability benefits—may be critically reduced, despite the fact that they may show “adequate” capacity for planning and modeling purposes.

The IRP must coordinate with the resource adequacy proceeding and consider the real-world results and constraints of imports and storage resources so that their contribution can be accurately assessed and modeled to ensure a reliable system is maintained.

### **C. The CAISO Supports Future Improvements to the IRP as Outlined in the Proposed Decision**

The CAISO supports the following three improvements specified in the Proposed Decision: (1) initiation of a procurement track; (2) additional filing requirements for load serving entities (LSEs); and (3) process timeline alignment with the TPP.

#### **1. Initiating a Procurement Track**

The CAISO supports the initiation of a procurement track within the IRP proceeding, with the caveat that the Commission should not direct procurement on the current PSP, but should conduct additional reliability modeling, as discussed above. The Commission should coordinate the IRP procurement track with its resource adequacy proceeding to maintain reliability. In the procurement track, the Commission should consider whether each LSE needs to show an independently reliable portfolio or, as an

alternative, share in the cost of reliability and renewable integration costs. The CAISO also supports the Proposed Decision’s consideration of both existing and new resources, especially long lead-time projects that may need coordination with the CAISO on transmission planning.

## **2. LSE Filing Requirements**

The CAISO supports additional LSE filing requirements. These requirements should list the contractual status and the development status for each resource referenced in an individual LSE resource plan filing. This information will provide a more accurate assessment of portfolio resources, potential reliability gaps, and opportunities for effective procurement.

## **3. Transmission Planning Process Timeline Alignment**

The CAISO supports the Commission’s intent to have decisions “rendered earlier, so that the full Commission has time to consider the [transmission planning process] recommendations before the study cycle begins.”<sup>14</sup> The CAISO appreciates this effort, which will greatly improve process coordination and transparency for parties.

Transmission planning process deadlines are set far in advance to accommodate CAISO tariff compliance dates. As such, CAISO deadlines vary little from year to year. The CAISO respectfully requests the Commission adopt either the Reference or Preferred System Portfolio along with the *Unified Resource Adequacy and Integrated Resource Plan Inputs and Assumptions* (Unified I&A) by early February. The portfolio(s) and the Unified I&A are inputs into the transmission planning process study plan, which is developed early in each year. Specifically, the CAISO posts its draft study plan by the third week in February and conducts a stakeholder meeting in the fourth week of February. The CAISO then posts the final study plan approximately one month later after receiving stakeholder feedback.

## **III. Conclusion**

The CAISO appreciates the opportunity to provide comments on the Proposed Decision and looks forward to working with the Commission to continue refining the IRP

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<sup>14</sup> Proposed Decision, p. 119.



and maintain reliability in the State of California.

Respectfully submitted,

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