

177 FERC ¶ 61,214  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;  
James P. Danly, Allison Clements,  
and Mark C. Christie.

California Independent System Operator Corporation      Docket No. ER22-190-000

ORDER ACCEPTING AGREEMENT

(Issued December 21, 2021)

1. On October 22, 2021 (October 22 Filing), pursuant to section 205 of the Federal Power Act (FPA),<sup>1</sup> the California Independent System Operator Corporation (CAISO) submitted a Joint Owned Unit Pilot Agreement (Pilot Agreement) among CAISO, Tucson Electric Power (Tucson Electric), and the Public Service Company of New Mexico (PNM). The Pilot Agreement sets forth the terms under which CAISO will model a shared resource<sup>2</sup> to facilitate a portion of the resource's output participating in the Energy Imbalance Market (EIM) on a pilot basis (Pilot). In this order, we accept the Pilot Agreement, effective December 22, 2021, as requested.

**I. Background**

2. CAISO states that it facilitated a dynamic transfer stakeholder process in 2010-2011 that established the rules for pseudo-ties<sup>3</sup> to CAISO's balancing authority area. Subsequently, in 2014, CAISO developed the EIM rules. CAISO states that together, these rules support pseudo-tied resources within the EIM area and market participation by the associated generating units. In addition, CAISO states that these

---

<sup>1</sup> 16 U.S.C. § 824d.

<sup>2</sup> A shared resource refers to a physical resource that is owned by more than one entity, and thus, the individual owners are entitled to some portion of the output from the physical resource.

<sup>3</sup> A pseudo-tie involves the real-time transfer of control of a generating resource from the native balancing authority, in which that resource is physically located, to an attaining balancing authority in a different geographic location. CAISO eTariff, app. A, Master Definition Supplement, Pseudo-Tie (0.0.0).

rules support participation by pseudo-ties of shared resources within the EIM area, including resource shares pseudo-tied between EIM entities or pseudo-tied to CAISO's balancing authority area. However, a generating unit with resource shares pseudo-tied into another balancing authority area is not physically represented in the market model - only the individual resource shares are modeled in the market. CAISO states that this modeling limitation places a burden on the resource share owners to coordinate operation of the shared resource and allocate the output to the individual shares in separate balancing authority areas. CAISO states that it has yet to fully develop software capable of physically modeling a resource and concurrently allocating the resource's attributes to the resource shares participating in the market. According to CAISO, this means that the modeling of shared pseudo-tie resources as separate market resources is limited to simple generators with a non-negative minimum load, start-up and minimum-load costs, and a single operating range.<sup>4</sup>

3. CAISO states that this modeling limitation became an issue recently as CAISO worked with PNM to commence participation in the EIM in April of 2021, and as CAISO continues to work with Tucson Electric to commence participation in the EIM on April of 2022. Specifically, CAISO, Tucson Electric, and PNM discussed how to implement a resource sharing arrangement for the Luna Energy Facility.<sup>5</sup> The Luna Energy Facility is located in the PNM balancing authority area and Tucson Electric's share is pseudo-tied to the Tucson Electric balancing authority area. CAISO asserts that prior to Tucson Electric's participation in the EIM there was no issue because the Tucson Electric balancing authority area is outside the EIM area and the pseudo-tied Tucson Electric share is not accounted for in the market model. CAISO explains that once Tucson Electric becomes part of the EIM area, however, its pseudo-tied shares must be accounted for in the market model, and the current CAISO modeling limitation of shared pseudo-tied resource participation is not consistent with the PNM and Tucson Electric resource sharing arrangements.

4. CAISO states that the objective of the Pilot Agreement is to enable PNM's and Tucson Electric's individual resource shares to participate in the market through enhanced modeling that accounts for the physical characteristics of their shared resource, while in turn allocating its attributes to the resource shares based on their individual

---

<sup>4</sup> October 22 Filing at 2-3.

<sup>5</sup> The Luna Energy Facility is a 570 MW natural gas-fired, combined cycle power plant, which is shared equally among PNM and TEP, both of which will be participating in the EIM, and a third party that will not be participating in the EIM with its share at this time. *Id.* at 1-4.

market participation.<sup>6</sup> According to CAISO, this circumstance is not unique to PNM and Tucson Electric, as other EIM entities share resources by pseudo-tie, and the EIM can only support these resource sharing arrangements under the currently available modeling solution. CAISO states that the Tucson Electric EIM implementation effort represents the earliest opportunity for CAISO to work towards developing the software required to model both the shared resource and the individual resource shares participating in the market. According to CAISO, identifying and resolving technical issues through the Pilot will assist CAISO and stakeholders in evaluating this functionality and developing a tariff-based mechanism. In the meantime, CAISO explains, the Pilot Agreement will support Tucson Electric's timely EIM implementation and a more accurate representation of Tucson Electric's resource sharing arrangement with PNM.<sup>7</sup>

## II. Pilot Agreement

5. CAISO states the Pilot Agreement details the contractual terms applicable to the Pilot. According to CAISO, the majority of the Pilot Agreement includes standard terms and conditions associated with participation in CAISO's markets that have been previously accepted by the Commission.<sup>8</sup> These provisions address the rules of interpretation, term and termination, applicability of CAISO's tariff,<sup>9</sup> costs, dispute resolution, representations and warranties, liability, uncontrollable forces, and miscellaneous terms.<sup>10</sup>

6. CAISO indicates that the Pilot Agreement also includes provisions that establish the scope of the Pilot and are therefore unique to the Pilot Agreement. An essential purpose of the Pilot Agreement is to define the relationship between the Pilot technical requirements and the existing EIM resource participation requirements included in the *pro forma* service agreements and CAISO's tariff. For example, the Pilot Agreement

---

<sup>6</sup> *Id.* at 1.

<sup>7</sup> *Id.* at 5.

<sup>8</sup> *Id.* (citing *Cal. Indep. Sys. Operator Corp*, 171 FERC ¶ 61,262 (2020) (accepting a split resource participation agreement between CAISO and the Calpine Sutter Energy Center); and *Cal. Indep. Sys. Operator Corp*, 170 FERC ¶ 61,169 (2020) (accepting a nodal pricing model agreement between CAISO and PacifiCorp).

<sup>9</sup> In particular, section 1.2 of the Pilot Agreement allows for matters specifically addressed in the Pilot Agreement to govern if there is a conflict with a CAISO tariff provision, and section 4.1 incorporates CAISO's tariff into the Pilot Agreement, as other CAISO *pro forma* service agreements do.

<sup>10</sup> October 22 Filing at 5-6.

includes requirements that result in differences between how “child resources” (the individual resource shares) participate in the EIM and how the “parent resource” (a resource that is shared among several parties) would otherwise participate in the EIM.<sup>11</sup>

7. CAISO indicates that Attachment A to the Pilot Agreement provides the Pilot technical requirements, most of which define how the parent resource’s physical characteristics are reflected in the child resources for purposes of EIM participation. According to CAISO, once the parent resource’s physical characteristics are registered and reflected in the child resources, these characteristics are accounted for in CAISO’s market much the same as any other individual EIM resource.<sup>12</sup> Attachment A to the Pilot Agreement also addresses resource registration, cost calculation, bidding, schedules, manual dispatch, ramp rates, outage management, metering, and settlement.

8. CAISO states that, under the Pilot Agreement, a child resource could be eligible for bid cost recovery which would not otherwise be available. CAISO explains that this could occur if a child resource submits an energy bid which could be dispatched uneconomically to accommodate the parent resource’s minimum load, thereby qualifying for bid cost recovery when such recovery would otherwise not be available because the conditions making that recovery possible stem from the sub-division of parent and child resources under the Pilot Agreement. However, CAISO notes that the circumstances under which this would occur are unlikely, and states that it will provide the sum of all child resource schedules to the parent resource scheduling coordinator to manage this circumstance in determining appropriate schedules. Further, CAISO states that it will monitor any inappropriate bidding behavior arising under this potential condition.<sup>13</sup>

9. CAISO requests an effective date of December 22, 2021, to support timely EIM implementation of Tucson Electric and enable CAISO to commence a future joint owned unit modeling stakeholder process based on the lessons learned from the Pilot effort with PNM and Tucson Electric.<sup>14</sup> Pursuant to section 2.2 of the Pilot Agreement, it will

---

<sup>11</sup> In this case, the Luna Energy Facility is considered the parent resource, while the underlying shares owned by PNM, Tucson Electric, and the third party are the child resources. *Id.* at 1-4.

<sup>12</sup> *Id.* at 8.

<sup>13</sup> *Id.* at 13.

<sup>14</sup> *Id.* at 17-18.

automatically expire after three years, unless amended, and such amendment will require Commission approval.<sup>15</sup>

### **III. Notice and Responsive Pleadings**

10. Notice of CAISO's filing was published in the *Federal Register*, 86 Fed. Reg. 59,700 (Oct. 28, 2021), with interventions and protests due on or before November 12, 2021. Southern California Edison Company filed a timely notice to intervene. PNM and Tucson Electric jointly filed a timely notice to intervene and comments in support of the Pilot Agreement.

### **IV. Discussion**

#### **A. Procedural Matters**

11. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2021), the timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

#### **B. Substantive Issues**

12. We find the Pilot Agreement to be just and reasonable and accept it for filing, effective December 22, 2021, as requested. The Pilot Agreement incorporates many of the standard CAISO terms and conditions for participation in CAISO's markets that were included in analogous agreements that have been accepted by the Commission.<sup>16</sup> The Pilot Agreement also sets forth the technical requirements that define how a parent resource's physical characteristics are reflected in the child resources and then accounted for in CAISO's market much the same as any other individual EIM resource for purposes of EIM participation. Thus, we find that the Pilot Agreement will effectuate the more complete and efficient modeling of shared resources in the market.

13. We also find that CAISO has demonstrated that the Pilot Agreement will assist in Tucson Electric's EIM implementation effort as CAISO works towards developing the software required to model both the parent resource and the child resources participating in the market. We agree with CAISO that identifying and resolving technical issues through the Pilot could assist CAISO and stakeholders in evaluating this functionality and

---

<sup>15</sup> *Id.* at 7; Pilot Agreement, § 2.2.

<sup>16</sup> *See Cal. Indep. Sys. Operator Corp*, 171 FERC ¶ 61,262 at P 21; *Cal. Indep. Sys. Operator Corp*, 170 FERC ¶ 61,169 at P 8; *see also See October 22 Filing at 5-6* (noting various tariff provisions that have been incorporated into the Pilot Agreement).

developing a tariff-based mechanism to address these issues, which, in turn, could benefit other interested market participants that may have similar circumstances.

The Commission orders:

The Pilot Agreement is hereby accepted, effective December 22, 2021, as requested, as discussed in the body of this order.

By the Commission. Commissioner Phillips is not participating.

( S E A L )

Kimberly D. Bose,  
Secretary.