166 FERC ¶ 61,158
FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC 20426

February 28, 2019

In Reply Refer To:
California Independent System
Operator Corporation
Docket No. ER19-354-000

Mr. William H. Weaver
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630

Attention: William H. Weaver

Dear Mr. Weaver:

1. On November 16, 2018, the California Independent System Operator Corporation (CAISO) filed tariff revisions to incorporate generator contingencies and remedial action schemes into its market optimization and its congestion pricing. Specifically, CAISO proposes to account for generator contingencies and remedial action schemes through two tariff changes. First, CAISO proposes clarifying revisions to its tariff on modeling and operating the grid to expressly include generator contingencies and remedial action schemes. Second, CAISO proposes to add new components to its marginal cost of congestion formula.

2. CAISO notes that, to a large extent, its currently effective tariff already includes generator contingencies and remedial action schemes. Nevertheless, CAISO states that making several clarifications to existing terminology will improve transparency. In particular, CAISO proposes to add a sentence to the definition of a "Contingency" to expressly include "potential Outages due to remedial action schemes." CAISO also proposes similar clarifications in Section 27 of the tariff, which addresses CAISO's markets and processes. CAISO states that these clarifications consist of parentheticals to clarify that remedial action schemes are included in CAISO's modeling of transmission contingencies.[1]

[1] CAISO Transmittal at 13-14.

3. Regarding the marginal cost of congestion, CAISO proposes to add a new component to the formula for calculating congestion prices that accounts for potential generator outages. CAISO states that these outages can be due to generator contingencies or remedial action schemes. CAISO explains that its existing marginal cost of congestion formula calculates the marginal cost of congestion based on the economic effect of additional power at a specific point flowing across a given transmission constraint. CAISO states that, to do so, CAISO multiplies the relevant Transmission Constraint coefficient by the Power Transfer Distribution Factor and its shadow price.[2] CAISO states that the Power Transfer Distribution Factor is the percentage of a power transfer that flows on a transmission facility as a result of the injection of power at the relevant bus and the withdrawal of power at the reference bus. CAISO notes that the shadow price is the marginal value ($/MWh) of relieving the constraint.[3]

4. CAISO states that, under the revised formula, it will calculate the cost of congestion as it currently does, and then subtract the product of the Power Transfer Distribution Factor for the relevant generator contingencies and its shadow price as well. CAISO proposes to make similar enhancements to the formula to calculate the marginal cost of congestion for pricing nodes in the energy imbalance market areas in the real-time market. [4]

5. CAISO asserts that its proposal to account for generator contingencies in the marginal cost of congestion is just and reasonable. CAISO contends that its proposal will ensure that its preventative modeling and market prices reflect grid realities. CAISO argues that the proposed revisions will also decrease out-of-market actions and the need for operators to manually monitor remedial action schemes and generator contingencies. In addition, CAISO asserts that its proposal will appropriately price each generator's contribution to congestion in the markets.[5]

6. Notice of CAISO's filing was published in the *Federal Register*, 83 Fed. Reg. 60,840 (2018), with interventions and protests due on or before December 7, 2018. NRG Power Marketing LLC; PacifiCorp; EDF Renewables, Inc.; Southern California Edison Company; the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, CA; Modesto Irrigation District; the City of Santa Clara; California Department of Water Resources, State Water Project; and Pacific Gas and Electric Company (PG&E) filed timely motions to intervene. PG&E and CAISO's Department of

[2] *Id.* at 14.

[3] *Id.* at 15.

[4] *Id.*

[5] *Id.* at 15-16.

Market Monitoring (DMM) filed comments. CAISO filed an answer in response to PG&E's comments. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2018), the timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

7. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2018), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We accept CAISO's answer because it has provided information that assisted us in our decision-making process.

8. DMM states that it supports CAISO's filing. DMM states that CAISO's proposal will allow the day-ahead and real-time markets to more efficiently and accurately manage generator contingency and RAS constraints than current methods allow. DMM further states that CAISO can apply existing market power mitigation measures to the proposed constraints in the same manner that it applies market power mitigation to current transmission constraints.[6]

9. PG&E states that it expects that improvements in CAISO's ability to include generator contingencies and remedial action schemes in CAISO's market optimization and pricing will bring benefits to the markets.[7] However, PG&E states that it believes that an error was inadvertently introduced in the definition of the generation loss distribution factor used in modeling generator contingencies and remedial action schemes in the tariff amendment. PG&E notes that the definition refers to "generator output" rather than "generator maximum capacity."[8] PG&E states that, during the stakeholder process, CAISO stated that it would use the maximum capacity for the relevant generators in calculating the generation loss distribution factors since that corresponds to the engineering studies used to assess the impact of generator contingencies and remedial action schemes and closely approximates how the system will actually respond.[9]

10. In its answer, CAISO states that it agrees that "maximum capacity" is clearer to the reader than "output," and that this word change is consistent with CAISO's intent and does not change CAISO's proposal as set forth in its original filing. CAISO states it believes that, although CAISO's proposal is just and reasonable as originally proposed,

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[6] DMM Comments at 1.

[7] PG&E Comments at 3.

[8] *Id.* at 4.

[9] *Id.* at 5.

CAISO is prepared on compliance to make the non-substantive clarifications which PG&E proposes.[10]

11. The Commission accepts CAISO's filing because we agree with CAISO that its proposal will more closely align market dispatch and prices with actual operations. This will allow prices received by generators to more accurately reflect their contribution to congestion under a dispatch that is secure against generator contingencies. We also agree with CAISO that its proposal will be beneficial by reducing reliance on exceptional dispatch.

12. We further agree that the phrase "generator maximum capacity" is the appropriate terminology and appears to be more consistent with the intent of CAISO's filing. Pursuant to CAISO's stated preference and commitment in its answer, we direct CAISO to make the clarifying edit to that definition in a compliance filing to be submitted no later than 30 days from the date of this order.

By direction of the Commission.

Nathaniel J. Davis, Sr.,
Deputy Secretary.

[10] CAISO Answer at 2.