

September 29, 2016

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Tariff Amendment to Reconcile Overlapping Provisions and
Reconciliation Change**

Docket No. ER16-_____ -000

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits this tariff amendment¹ to reconcile overlapping tariff records in the Commission's eTariff system such that the sum of revisions to Appendix C Locational Marginal Price (Appendix C) that the Commission has already accepted in different proceedings are properly reflected in the CAISO tariff. The CAISO does not propose any changes to any Commission approved tariff language in this filing with the exception of a single reconciliation change to repeat a defined term that was corrected in one filing and removed in another. The CAISO proposes to include the corrected version of the definition in this filing, as explained below in detail, but the overwhelming purpose of this filing is to reconcile the tariff language already accepted by the Commission. The CAISO requests that the Commission accept the reconciled Appendix C contained in this filing effective as of October 1, 2016.

I. Background

From time to time, instances arise where CAISO tariff records on file in the Commission's eTariff system, although individually they accurately reflect revisions to tariff sections approved by the Commission in the successive proceedings in which they were filed, do not accurately reflect the cumulative result of the Commission's orders across those proceedings. Such situations typically arise due to the chronological sequence in which those records are filed in various dockets and then acted on by the

¹ The CAISO submits this filing pursuant to section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824d.

Commission. From the time the CAISO files a tariff amendment to the time the Commission issues an order accepting it as of a specified effective date, several months or more may pass, especially if the Commission conditions its acceptance on the filing of revisions to certain portions of the original proposed amendment language. Given these timeframes, it is necessary on occasion for the CAISO to file tariff amendments in which some of the proposed tariff revisions include changes that affect tariff records that are the subject of already pending tariff amendment proceedings that have not yet been resolved.

Such an instance of overlapping tariff records has recently arisen with respect to revisions proposed in two different dockets affecting Appendix C of the CAISO tariff. On April 28, 2016, the CAISO submitted a tariff amendment in Docket No. ER16-1518-000 to propose modifications resulting from Phase 2 of the CAISO's Energy Imbalance Market Year One Enhancements initiative (EIM Enhancements Phase 2). Specifically, Appendix C was modified to reflect changes to Section E, to be effective October 1, 2016. Then, on June 6, 2016, while the EIM Enhancements Phase 2 amendment was pending before the Commission, the CAISO submitted an additional tariff amendment, in Docket No. ER16-1886-000, that also included changes to Appendix C (Pricing Enhancements), to be effective September 7, 2016. The Commission approved the language in the EIM Enhancements Phase 2 amendment on June 30, 2016.² The Commission also approved the proposed language in the Pricing Enhancements amendment on September 1, 2016.³ However, the changes to the tariff record for Appendix C approved in the Pricing Enhancements docket will not be reflected in the effective eTariff tariff record once the EIM Enhancements Phase 2 amendment changes to Appendix C take effect on October 1.

Although the revisions for the EIM Enhancements Phase 2 amendment and the Pricing Enhancements amendment have been accepted by the Commission and will both be in effect on October 1, 2016,⁴ the Commission's eTariff page will only reflect the EIM Enhancements Phase 2 amendment language in Appendix C as the currently effective tariff record.⁵ The EIM Enhancements Phase 2 amendment was submitted before the Pricing Enhancements amendment and therefore, the Pricing Enhancements amendment modifications to Appendix C are not reflected in the EIM Enhancements

² *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,329 (2016).

³ *Cal. Indep. Sys. Operator Cop.*, 156 FERC ¶ 61,152 (2016).

⁴ The EIM Enhancements Phase 2 amendment becomes effective October 1, 2016, and the Pricing Enhancements amendment went into effect on September 7, 2016.

⁵ When a tariff record has been revised, the eTariff page shows the accepted version of the record with the latest effective date as the currently effective version. In this instance, the more recently filed Pricing Enhancements amendment that contains changes to Appendix C will be shown as superseded come October 1, 2016, while the EIM Enhancements Phase 2 amendment changes to Appendix C will be shown as effective on eTariff.

Phase 2 amendment. Because no filed tariff record includes the accepted revisions from both tariff amendment proceedings, the eTariff page cannot display a tariff record that includes all of the currently effective language for Appendix C. The purpose of this filing is to rectify this situation by submitting a conformed Appendix C that (with the one exception detailed in Section II below) reflects the effective revisions to tariff language that have been approved in both proceedings, but have never been included in a single tariff record because of the chronological overlaps detailed above between the two proceedings.

II. Overlap Reconciliation and Proposed Tariff Revisions

The CAISO submits this filing to ensure that the eTariff system reflects all approved tariff amendments to Appendix C, and that the records on the system are consistent with the conformed tariff posted on the CAISO website. This filing satisfies the specific requirements of the Commission orders in the proceedings that accepted the provisions included in the conformed tariff records filed herewith. The CAISO does not propose any changes to Commission-approved tariff language in this filing except for the following single reconciliation change.

The CAISO recognized, in the course of reviewing the two accepted versions of Appendix C that are being reconciled in this filing, that it elected to remove a reference to a defined variable in the equation associated with the marginal cost of losses when the EIM Enhancements Phase 2 tariff changes were filed. This variable, SMECr, is defined at the outset of Appendix C and was previously defined inconsistently in subsection E regarding the marginal cost of losses. In the EIM Enhancements Phase 2 filing, the CAISO removed the previously inconsistent definition of SMECr from subsection E in favor of the correct definition at the outset of Appendix C. In the Pricing Enhancements filing, the CAISO instead elected to correct the definition of SMECr to be consistent with the definition included at the outset of Appendix C. Here the CAISO desires to reconcile these choices by retaining the corrected definition from the Pricing Enhancements filing in subsection E, rather than remove the reference as was done in the version of Appendix C accepted in the EIM Enhancements Phase 2 filing. The proposed inclusion of the correct definition of SMECr both at the outset of Appendix C and in subsection E is appropriate. It is customary to include each defined variable in association with each equation to avoid confusion, and it was a mistake to remove the definition of SMECr entirely in the EIM Enhancements Phase 2 filing. Accordingly, the CAISO proposes in this filing to retain the definition of SMECr in subsection E of Appendix C as accepted by the Commission in the Pricing Enhancements order.

This proposed clarification reconciles the only conflict between the versions of the subsection E language accepted in the two proceedings (by selecting the Pricing Enhancements version over the EIM Enhancements Phase 2 version with a later effective date). In that respect only, it is a change from language previously accepted by the Commission in the EIM Enhancements Phase 2 order, and the CAISO requests that it be accepted as consistent with prior Commission orders. In all other respects,

the version of the Appendix C tariff record proposed in this filing includes all of the tariff language accepted in both the Pricing Enhancements and EIM Enhancements Phase 2 proceedings.

Attachment A to this filing contains the clean tariff section Appendix C showing the full text of the reconciled tariff records once all of the conforming changes made to this filing are incorporated. Attachment B to this filing contains the marked redline tariff section Appendix C showing the revisions necessary to the effective tariff record currently on file in order to fully reflect all accepted language in that section (with the exception of the deletion of the SMECr definition) once the EIM Enhancements Phase 2 revisions to Section E take effect on October 1, 2016. Once this filing is accepted by the Commission, the Appendix C tariff record initially filed in the EIM Enhancements Phase 2 proceeding, which does not include the accepted Pricing Enhancement amendment revisions, will be superseded by the reconciled version of that tariff record submitted in this filing.

III. Effective Date and Request for Wavier

The CAISO requests that the Commission accept this reconciled tariff record of Appendix C to be effective October 1, 2016. The CAISO respectfully requests waiver of the Commission's notice requirement to permit the reflection of the proper tariff record of Appendix C to go into effect on October 1, 2016, as requested. Otherwise, the tariff records would not be reconciled as of the EIM Enhancements Phase 2 amendment effective date and there would be a time period when the CAISO tariff did not reflect the Commission's order accepting the Pricing Enhancements amendment. Specifically, pursuant to section 35.11 of the Commission's regulations (18 C.F.R. § 35.11), the CAISO requests waiver of the notice requirement contained in section 35.3 of the Commission's regulations (18 C.F.R. § 35.3) to allow the requested effective date since it is fewer than 60 days from the date of this filing.

IV. Communications

Correspondence and other communications regarding this filing should be directed to:

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V. Service

The CAISO has served copies of this filing on all parties with scheduling coordinator agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

VI. Contents of Filing

In addition to this transmittal letter, this filing includes the following attachments:

Attachment A	Clean CAISO tariff section Appendix C showing the full text of the reconciled tariff records
Attachment B	Red-lined CAISO tariff section Appendix C showing the revisions to reconcile the tariff records

VII. Conclusion

For the reasons explained above, the CAISO respectfully requests that the Commission accept this filing as submitted, effective October 1, 2016.

Respectfully submitted,

/s/ John C. Anders

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CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 29th day of September, 2016.

/s/ Grace Clark
Grace Clark

Attachment A – Clean Tariff Records

Appendix C Locational Marginal Price Overlap

California Independent System Operator Corporation

Appendix C

Locational Marginal Price

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E. Marginal Losses Component Calculation

The CAISO calculates the Marginal Cost of Losses (MCL_i) at each bus *i* as described in Section 27.1.1.2. The MCL component of the LMP at any bus *i* within the CAISO's Balancing Authority Area is calculated in the Day-Ahead Market and the Real-Time Market using the equation:

$$MCL_i = MLF_i * SMEC_r$$

The MCL component of the LMP at any bus *i* within an EIM Balancing Authority Area is calculated in the Real-Time Market using the equation:

$$MCL_i = MLF_i * (SMEC_r + \lambda_j - \psi)$$

Where:

- MLF_i (the marginal loss factor for PNode *i* to the system Reference Bus) = $-\partial L/\partial G_i$,

Where:

L = system losses;

G_i = "generation injected" at PNode *i*, and

$\partial L/\partial G_i$ is the partial derivative of system losses with respect to generation injection at bus *i*.

- SMEC_r is the marginal cost of Energy at the Reference Bus *r* (System Marginal Energy Cost).
- λ_j = the shadow price of the power balance constraint for the Balancing Authority Area in which the bus is located; and
- ψ = the shadow price of the EIM export allocation constraint.

The MCL at PNodes in an EIM Entity Balancing Authority Area *j* in the Real Time Market includes additional contributions from the shadow price of the power balance constraint for that Balancing Authority Area (λ_j) and the shadow price of the net imbalance energy export allocation constraint for greenhouse gas regulation (ψ):

$$MCL_i = MLF_i * (SMEC_r + \lambda_j - \psi)$$

Attachment B – Marked Tariff Records

Appendix C Locational Marginal Price Overlap

California Independent System Operator Corporation

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Locational Marginal Price

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E. Marginal Losses Component Calculation

The CAISO calculates the Marginal Cost of Losses (MCL_i) at each bus *i* as described in Section 27.1.1.2.

The MCL component of the LMP at any bus *i* within the CAISO's Balancing Authority Area is calculated in the Day-Ahead Market and the Real-Time Market using the equation:

$$MCL_i = MLF_i * SMEC_r$$

The MCL component of the LMP at any bus *i* within an EIM Balancing Authority Area is calculated in the Real-Time Market using the equation:

$$MCL_i = MLF_i * (SMEC_r + \lambda_j - \psi)$$

Where:

- MLF_i is (the marginal loss factor for PNode *i* to the system Reference Bus) = $-\partial L/\partial G_i$
- ~~, based on an AC power flow solution. The marginal loss factor at a PNode is the incremental change in the quantity (MW) of transmission losses in the network resulting when serving an increment of Load at the PNode from the Reference Bus.~~
- ~~MLF_i is equal to $-\partial L/\partial G_i$, where:~~
 - ~~L is system losses;~~
 - ~~G_i is "generation injected" at PNode *i*, and~~
 - ~~$\partial L/\partial G_i$ is the partial derivative of system losses with respect to generation injection at bus *i*, that is, the incremental change in system losses associated with an incremental change in the generation injections at bus *i* holding constant other injection and withdrawals at all buses other than the Reference Bus and bus *i*.~~
- SMEC_r is the marginal cost of Energy at the Reference Bus *r* (System Marginal Energy Cost).
- λ_j = the shadow price of the power balance constraint for the Balancing Authority Area in which the bus is located; and
- ψ = the shadow price of the EIM export allocation constraint.

The MCL at PNodes in an EIM Entity Balancing Authority Area j in the Real Time Market includes additional contributions from the shadow price of the power balance constraint for that Balancing Authority Area (λ_j) and the shadow price of the net imbalance energy export allocation constraint for greenhouse gas regulation (ψ):

$$MCL_i = MLF_i * (SMEC_r + \lambda_j - \psi)$$