

October 5, 2012

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

**Re: California Independent System Operator Corporation
Data and Information Release Phase 3**

Docket No. ER13-____-000

Dear Secretary Bose:

The California Independent System Operator Corporation (ISO) submits for filing and Commission acceptance tariff amendments enabling the release of market related information. The purpose of these tariff revisions is to enhance participation in the ISO's energy, ancillary services and congestion revenue rights (CRR) markets.¹

These proposed tariff changes were developed out of a stakeholder process conducted in 2010 and 2011, the purpose of which was to determine what additional market related data and information would facilitate efficient participation in the ISO markets. The proposed data releases were unanimously supported by stakeholders. The ISO respectfully requests that the Commission accept the tariff amendments proposed herein with an effective date of December 11, 2012.

I. BACKGROUND

In 2009, the ISO commenced an initiative to address the request of stakeholders that the ISO and stakeholders review the ISO data release and accessibility policy following the implementation of the ISO's new nodal market in April of 2009. The objective of this initiative was to facilitate the release of data and information that would enable market participants to better understand market results of and participate more effectively in the ISO markets. Phases one and two of this effort addressed items identified early on by market participants and the ISO as necessary to enhance market participation.

¹ The ISO is also sometimes referred to as the CAISO. The ISO submits the proposed tariff amendment pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d and Part 35 of the Commission's regulations, 18 C.F.R. Part 35, and in compliance with Order No. 714, *Electronic Tariff Filings*, FERC Stats. & Regs. ¶ 31,276 (2009).

Specifically, phase one addressed the reporting of transmission constraints expected to be enforced and ultimately enforced in the day-ahead market, and was implemented in July 2010.² Phase two addressed data issues specifically related to the implementation of convergence bidding and was implemented in February 2011 with the release of convergence bidding.³

The third phase of this effort was established to examine issues of a broader scope, namely the identifying the additional data that may need to be released to further improve overall market efficiency. The ISO initiated this effort by convening a working group, which was tasked with establishing a baseline of market data release enhancements to meet the objective of improving overall market efficiency. Subsequently, the ISO commenced the Data Release Phase 3 stakeholder process to address a group of policy/tariff issues identified in the working group.

The scope of the Data Release Phase 3 stakeholder policy/tariff process pertained to the following data release issues: 1) additional market model data beyond the data released through the CRR Full Network Model (FNM) release process and the transmission constraints, nomograms and contingencies release process, 2) timing of access to market data to ensure comparable price discovery across market participants, 3) clarify the ISO tariff with regard to releasing CRR bid data, and 4) release of variable energy resource forecasting data and changes to the cost recovery of the forecasting service. As discussed in greater detail below, the ISO and stakeholders established the need for release of this discrete set of additional market data, which the ISO will be prepared to provide effective December 11, 2012.

II. DISCUSSION AND PROPOSED TARIFF CHANGES

The ISO proposes to release the following data and information:

- 1) additional market modeling data including transmission limits, load distribution factors, shift factors or power transfer distribution factors, and aggregate generation outages;
- 2) CRR auction bid data; and
- 3) wind and solar energy resources forecast data.

² *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,023 (2010) (“Phase 1 Order”).

³ *Cal. Indep. Sys. Operator Corp.* 133 FERC ¶ 61,039 at PP 88-90 (2010).

Stakeholders have requested and strongly support the release of this information. The ISO believes that the release of this information will enhance the participation of market participants in the ISO markets.

The ISO's proposal also contains proper measures to protect any confidentiality or security concerns related to the release of this information. As discussed further below, to the extent that there are confidentiality concerns, the ISO proposes the release of such information at an aggregated level to eliminate the ability to discern any commercially sensitive resource specific data.

With respect to information that has been deemed to be critical energy infrastructure information, the ISO seeks to protect this sensitive information in the same way that it protects the release of transmission constraints information under the ISO existing tariff provisions in Section 6.5.1.5 and 6.5.3.3.1.⁴ Specifically, the ISO proposes to require individuals seeking to access such data to execute a non-disclosure agreement. In an effort to streamline the management of such non-disclosure agreements, the ISO will consolidate the release of all market specific related data under a non-disclosure agreement. As reflected in Section 6.5.10, the same provisions that apply to the release of the transmission constraints in Sections 6.5.3.3.1 will also apply to the release of the additional market modeling related data.

A. Release of Additional Market Modeling Data

i. Release of Transmission Limits

The ISO proposes to issue a report on the limits for transmission constraints, including nomograms, branch groups, and individual transmission facilities, under both the base case and contingencies market runs. The proposed report will include the actual limits used in the integrated forward market, the hour-ahead scheduling process, and the real-time dispatch runs for those transmission elements that are approaching the default limits and are binding in the respective runs. A broad range of stakeholders supported the release of transmission limits and initially requested that the ISO release this information during the first phase of the data release stakeholder process. Because the release of this information required consideration of a number of technical and confidentiality issues, the ISO was not able to release this information as part of phase one. However, the ISO committed to address the release of this information in subsequent phases of this initiative and has now found the means for effectively providing this information. The ISO agrees that information on the transmission limits used in the market runs will enhance a market participant's ability to model the constraints on the ISO system. Making

⁴ See *also*, Phase 1 Order at P 19.

this information available to market participants will thus enhance the overall efficiency of the ISO markets.

Market Participants already receive the default limits through the release of the CRR FNM. The ISO now proposes to release additional information regarding the actual transmission limits actually used in the model, which will enable market participants to more accurately reflect system conditions for the day ahead and real time markets in their own IS market models. Over time, the assumptions behind the default limits may change as system conditions change. This, in turn, may result in changes to the specific limits on the various transmission constraints, nomograms and other transmission elements in the market model actually used in each market run. These limits may be different under the base case and under specific contingencies on the system.

The ISO and stakeholders agreed to a release process that permits the release of the actual transmission limits enforced in the day-ahead and real-time markets on the third day after the applicable trading day. The day-ahead report will list the limits that are approaching the default limits and are enforced in each run by the hour ending, constraint type, transmission name, and enforced limit. The real-time report will include applicable real-time unit commitment fifteen-minute interval, constraint type, transmission name, and enforced limit.

The ISO believes this information constitutes critical energy infrastructure information and, therefore, the ISO proposes to release the data subject to the same protective provisions already in place under its tariff in Section 6.5, which it now proposes to consolidate in section 6.5.10. Specifically, the ISO will make the data available only to persons that execute a non-disclosure agreement which requires that the information be treated confidentially. Proposed Section 6.5.10.1.4 includes the provisions for the release of this data.

ii. Release of Day-Ahead Load Distribution Factors

The ISO proposes to release the load distribution factors actually used in running the ISO day-ahead market. The bulk of the ISO load is cleared and priced at the load aggregation points. A smaller portion of the ISO load is cleared and priced at the nodal level. For load that is cleared and settled at the load aggregation points, the load distribution factors model the load at the nodal level by distributing the load at the constituent nodal locations with each of the load aggregation points. The load distribution factors used in the market model are based on load patterns from seasonal base cases and are input in the day-ahead and real-time markets. Stakeholders uniformly supported the release of this information, asserting that knowledge of the load distribution factors used in the ISO markets will allow them to more accurately analyze and simulate the market. This will enable market participants to help identify and improve load modeling issues, evaluate the impact their bids on a particular constraint, and

better understand the outcomes of their virtual bidding activity. The ISO has agreed to provide the day-ahead load distribution factors subject to the conditions described below.

The ISO currently provides on its OASIS a set of typical load distribution factors for nodes in the full network model. The ISO proposes herein to release the more relevant actual day-ahead load distribution factors used in the actual day-ahead market. The load distribution factors will be released three days after the applicable trade date. For example for the day-ahead market conducted on December 1 for December 2, the load distribution factors would be posted on December 5.

Like transmission limits, the load distribution factors reflect critical energy infrastructure information related to load consumption patterns on the ISO system. Therefore, like transmission limits, the ISO proposes to release the data subject to the same protective provisions already in place under its tariff in Section 6.5, which provisions it now proposes to consolidate in section 6.5.10. Specifically, the ISO will only make the data available to persons that execute a non-disclosure agreement that requires the information to be treated confidentially.

The ISO will only post the load distribution factors for specific nodal locations if the location has been identified as a specific node at which there is more than one customer. During the stakeholder process, load serving entities informed the ISO that at certain nodal locations there may only be a single customer receiving service from the load serving entity. They expressed that the load distribution factor at those single-customer locations may reflect commercially sensitive information for their customers. To prevent the disclosure of such possible commercially sensitive information, the ISO has agreed to not release the load distribution factors at any specific location unless the load serving entity has identified a specific node as a location where there is more than one customer. To the extent a location is identified as a single customer location, the ISO will release the load distribution factors for such locations at a newly created load aggregation point that includes all the single-customer locations.

Proposed section 6.5.10.1.2 includes the provisions for the release of this data.

iii. Release of Day-Ahead and Real-Time Market Power Transfer Distribution Factors or Shift Factors

The ISO proposes to release the day-ahead and real-time shift factors, also known as power transfer distribution factors. Stakeholders broadly supported the release of this information. The day-ahead and real-time shift

factors or power transfer distribution factors are elements that model the relative benefit of an individual bus or node in resolving a specific constraint. Stated differently, the shift factor for a specific bus is defined relative to a specific transmission constraint, and represents the incremental amount of power flow on the specified constraint when an additional unit of power is injected at the specified bus and withdrawn from the reference location.

Information on the actual shift factors used in the ISO markets, like information on the transmission limits and load distribution factors, allows market participants to more accurately analyze and simulate ISO markets. In addition, as part of the convergence bidding market enhancement, the ISO will withdraw CRR revenue received by the market participant if it used virtual bids to increase the value of their CRR holdings. This is reflected in Section 11.2.4.6 of the ISO tariff and is referred to as the CRR settlement rule. The CRR rule determines the impact of virtual bids on CRR holdings by evaluating the impact of the virtual activity utilizing the shift factors of the network model. The release of the day-ahead and real-time shift factors will enable market participants to validate the CRR settlement rule calculation and perform related market analysis.

Like the load distribution factors and the transmission limits, the ISO proposes to release day-ahead shift factors by day-ahead, hour-ahead scheduling process, and real-time dispatch binding constraints three days after the applicable trading day. The day-ahead report will include the binding constraint, node, and shift factor for each hour. The hour-ahead scheduling process report will include the binding constraint, node, and shift factor for each fifteen-minute real-time unit commitment interval. The real-time report will include the constraint, node, and shift factor for each five-minute real-time dispatch interval. Releasing all the shift factors would result in the release of a significant amount of data points, which would be technologically infeasible to do on a daily basis. Also, where constraints are not binding, the shift factors do not provide any relevant information because there is no need to show the relative impact of resolving the constraint. Therefore, the ISO proposes to only release the shift factor binding constraints.

Similar to the transmission limits and load distribution factors, the ISO believes shift factors can be critical energy infrastructure information because they reflect the sensitivity and capabilities of the transmission grid. Therefore, like transmission limits, the ISO proposes to release the data subject to the same protective provisions already in place under its tariff in Section 6.5, which will be consolidated into section 6.5.10. Specifically, the ISO will only make the data available to persons who execute a non-disclosure agreement which requires that the information be treated confidentially.

Proposed section 6.5.10.1.3 includes the provisions for the release of this data.

B. Aggregated Generation Outages

The ISO proposes to provide aggregate information on generation outages in the three existing zone trading hubs (NP15, SP15 and ZP26). Stakeholders widely support the release of aggregated generation data asserting that this information provides them with the ability to better align the base market model used in each run of the ISO markets with actual system conditions. This information will provide more visibility regarding system conditions, which will allow parties to make better educated decisions about the use of their resources including scheduling their own outages to address possible constraints on the system. The ISO agrees that providing this information will enhance market efficiency.

The ISO cannot make available generation data pertaining specifically to individual generators, because it is commercially sensitive information. The aggregation of outages data at a sufficiently aggregated level, however, eliminates the commercial sensitivity of the information and still provides market participants with sufficient visibility as to system conditions. Stakeholders requested that the information be aggregated by the existing zone trading hub and by type of fuel category such as thermal, hydro and renewable resources. While the ISO agrees that disaggregating the data at this level may be useful, the ISO must ensure that the release of this data does not contravene the confidentiality restrictions in Section 20 of the ISO tariff. Therefore, by not hard-wiring the tariff language to specific fuel-type categories, the ISO will be able to aggregate the data at levels of fuel categories in the event that the confidentiality requirements in Section 20 prevent the release of such data. For example, in ZP26 there are no renewable resources and all of the hydro resources are operated by one scheduling coordinator. Therefore, for ZP15, the ISO will provide the aggregated outages at the trading hub level as a whole and not by fuel type. The proposed provisions in Section 6.5.11 provide the flexibility to provide greater disaggregation in the future provided the ISO can ensure the disaggregation by further fuel types does not disclose commercially sensitive information.

The ISO will release the aggregated outages data for the applicable trading day, as well as the twenty-nine days that follow. Because the majority of generation outage data is submitted within 72 hours, providing a rolling 30-day window provides sufficient long term visibility for market participants.

C. Release of CRR Auction Bid Data

The ISO proposes to release bids submitted by market participants to the monthly and annual CRR auctions. Until now, the ISO has only released energy and ancillary services bid data and has not released CRR auction bid data.

Stakeholders have widely supported the release of this additional bid data asserting that it will allow market participants to understand why bids did or did not clear the auction, thereby enhancing their own bidding behavior in future CRR auctions.

The ISO will make this data publically available, but will conceal the identity of the parties that have submitted the bids. The ISO proposes to publish monthly CRR auction bids ninety (90) days after the close of the applicable monthly CRR Auctions. The ISO further proposes to publish seasonal CRR auction bids, in quarterly increments after the expiration of each set of seasonal CRRs. The report will provide for each bid segment the source, sink, time-of-use, MW quantity, and MW price. The ISO also already makes publically available the CRRs released through the CRR auctions, to whom they were released, how many MWs, and at what price they cleared. Stakeholders have broadly supported the release of CRR bid data, provided there is a sufficient amount of time delay between the time of the auctions and the data release.

The proposed tariff provisions enabling the release of this data are proposed section 6.5.6.1.3.

D. Release of Wind and Solar Forecasting Data

The ISO proposes to make publically available aggregated forecast of wind and solar energy production. Market participants widely support the release of this data. They state that it will assist in the convergence of day-ahead and real time prices by providing greater visibility into their potential output each day. The availability of forecast data to all market participants should result in a more efficient market for both physical and financial players.

Currently the ISO receives meteorological data from all variable energy resources (*i.e.*, wind and solar) that are qualified as Eligible Intermittent Resources under the ISO tariff. The ISO then provides this data to its forecasting service provider. The ISO receives meteorological data from approximately 1200 MW of wind and solar resources or 25-30% of the total wind and solar resources currently interconnected to the ISO grid. Only resources under the Participating Intermittent Resource Program (PIRP) and new Eligible Intermittent Resources (EIR) are required to provide meteorological data in order to participate in ISO markets. As a result, the ISO can only provide forecast data for those resources that provide meteorological data and not the total fleet of wind and solar resources.

The ISO will post aggregated day-ahead hourly forecast data by 5:00 AM prior to the applicable day-ahead market. The ISO will also provide an hourly aggregate forecast at 90 minutes before the applicable trading hour. In addition, the ISO will provide the actual aggregated supply data the following day by hour.

To protect the commercially sensitive information of these generation resources, the ISO will aggregate the forecast by the existing zone trading hub (NP15, SP15, ZP26). The forecast will provide separate values for wind and solar. The trading hub forecast will take in to consideration any diversity benefits of the wind and solar resources within each trading hub. Therefore, the forecast will not equal the total of each individual wind and solar resource forecast in the trading hub, but rather be a trading hub specific wind and solar forecast.

During the stakeholder process preceding this filing, the ISO considered whether additional charges would be needed to support the release of this data. No change to the cost recovery was made because the cost of the forecast is through the Grid Management Charge market services rate and Eligible Intermittent Resources also pay an additional \$0.10 per MWh to cover some or all of the forecasting costs.

E. Provisions to Address Failures in Publication of Data

At times, the ISO may experience technical difficulties that prevent the release of the data at the designated time. While the ISO has developed a robust set of procedures and technology to enable the release of the data specified above reliably, technological glitches and human errors happen. The ISO is therefore proposing a tariff-based remedy, which provides that the ISO will continue to attempt to release the data for up to thirty days after the failed release. If the ISO cannot post the failed run in thirty days, the posting requirement will be eliminated for such time. These provisions enable the ISO to provide the necessary data, but relieve it of the burden of having to continue attempting to resolve technical issue after thirty days -- after which the data may no longer be relevant.

F. Suspension of Data Releases

After the release of the draft final proposal in the preceding stakeholder process, the ISO's Department of Market Monitoring requested that the ISO suspend the release of market related data if the ISO determined that the release of such data results in anti-competitive or detrimental impacts to market efficiency.⁵ The ISO's Department of Market Monitoring supported the request and the ISO agreed to adopt this provision in its tariff. Stakeholders did not oppose these additional provisions.

⁵ See Attachment C – Memorandum to ISO Board of Governors.

III. COMMUNICATIONS

Communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Secretary with respect to this submittal:

Nancy Saracino
General Counsel
Anthony Ivancovich
Assistant General Counsel
Anna A. McKenna*
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 608-7182
Fax: (916) 608-7222
E-mail: amckenna@caiso.com

* Individual designated for service pursuant to Rule 203(b)(3),
18 C.F.R. § 203(b)(3).

IV. EFFECTIVE DATE

The ISO proposed an effective date of December 11, 2012 for the proposed tariff modifications.

V. SERVICE

The ISO has served copies of this transmittal letter, and all attachments on the California Public Utilities Commission, the California Energy Commission, and all parties with effective Scheduling Coordinator Service Agreements under the ISO Tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO Website.

VI. ATTACHMENTS

The following documents, in addition to this transmittal letter, support the instant filing:

Attachment A	Revised ISO tariff sheets that incorporate the proposed changes described above
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- Attachment B** ISO tariff revisions shown in black-line format
- Attachment C** Memorandum to ISO Board of Governors
- Attachment D** Table of Proposed Tariff Changes

VII. CONCLUSION

For the foregoing reasons, the ISO respectfully requests that the Commission approve this tariff revision as filed. Please contact the undersigned if you have any questions concerning this matter.

Respectfully submitted,

By: /s/ Anna A. McKenna

Nancy Saracino

General Counsel

Anthony Ivancovich

Assistant General Counsel

Anna A. McKenna

Senior Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

Tel: (916) 608-7182

Fax: (916) 608-7222

amckenna@caiso.com

Attorneys for the California Independent
System Operator Corporation

Attachment A – Clean Tariff

Data and Information Release Phase 3 Amendment Filing

California Independent System Operator

Fifth Replacement FERC Electric Tariff

October 5, 2012

6. Communications

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6.5.6 Market Bid Information

6.5.6.1 Public Market Information

6.5.6.1.1 Day-Ahead and Real-Time Market Bids

The following information shall be published on OASIS ninety (90) days following the applicable Trading Day, with the exclusion of the information that is specific to Scheduling Coordinators:

- (a) AS market Bids;
- (b) Energy market Bids, including Virtual Bids separately identified as such; and
- (c) RUC market Bids.

6.5.6.1.2 Start-Up and Minimum Load Costs

Within seven (7) days after the Trading Day, the CAISO will publish via OASIS all Start-Up Costs and Minimum Load Costs for CAISO committed resources.

6.5.6.1.3 CRR Auction Bids

The CAISO will publish Monthly CRR Auction bids ninety (90) days after the close of the applicable monthly CRR Auctions, with the exclusion of the information that is specific to CRR Holders or Candidate CRR Holders. The CAISO will publish Seasonal CRR Auction bids, in quarterly increments after the expiration of each set of Seasonal CRRs, with the exclusion of the information that is specific to CRR Holders or Candidate CRR Holders.

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6.5.10 Protected Communications with Market Participants

6.5.10.1 Protected Data

The CAISO will provide to parties that have signed a Non-Disclosure Agreement in accordance with Section 6.5.10, the following Protected Data:

6.5.10.1.1 Transmission Constraints Enforcement List

After the results of the Day-Ahead Market are posted, the CAISO will provide the daily post-Day-Ahead Market Transmission Constraints Enforcement List, which consists of the list of Transmission Constraints,

including Contingencies and Nomograms that are enforced and not enforced in that day's Day-Ahead Market. Subsequently and prior to the next Day-Ahead Market, the CAISO will provide to parties the pre-Day-Ahead Market Transmission Constraints Enforcement List, which consists of the daily list of information for the Transmission Constraints, including Contingencies and Nomograms, the CAISO plans to enforce or not enforce for the next day's Day-Ahead Market. To the extent that the CAISO does not make either of these two reports available on any given Operating Day, the CAISO will instead provide within the next thirty (30) days only the list of Transmission Constraints, including Contingencies and Nomograms, that were enforced or not enforced for the applicable Day-Ahead Market, after which the information will not be provided.

6.5.10.1.2 Load Distribution Factors

Three (3) days after the applicable Trading Day, the CAISO will provide the actual Load Distribution Factors used in the Integrated Forward Market for the applicable Trading Day. The CAISO will provide the Load Distribution Factors for each of the Default LAPs' underlying Pricing Nodes for all Pricing Nodes that are identified by the responsible Utility Distribution Company as Pricing Nodes at which there is more than just a single customer. For Pricing Nodes that the responsible Utility Distribution Company has not identified as Pricing Nodes at which there is more than just a single customer, the ISO will publish the respective Load Distribution Factors in a single aggregated location capturing all such nodes. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report within the next thirty (30) days for the applicable Integrated Forward Market, after which the information will not be provided.

6.5.10.1.3 Power Transfer Distribution Factors

Three (3) days after the applicable Trading Day, the CAISO will provide the Integrated Forward Market, HASP and Real-Time Dispatch Power Transfer Distribution Factors for each binding Transmission Constraint in the respective markets. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report for any given successful Integrated Forward Market, HASP and Real-Time Dispatch run within the next thirty (30) days, after which the information will not be provided.

6.5.10.1.4 Transmission Constraints Limits

Three (3) days after the applicable Trading Day, the CAISO will provide a report on the limits associated with all Transmission Constraints, including Nomograms, branch groups, and individual transmission facilities, under both base case and contingencies, that are enforced in the Integrated Forward Market, HASP and Real-Time Dispatch, and that based on the flows in the respective market runs are approaching the limits. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report within the next thirty (30) days for any given successful Integrated Forward Market, HASP and Real-Time Dispatch run, after which the information will not be provided.

6.5.10.2 Requirements to Obtain the Protected Data

The CAISO shall provide the Protected Data only to those Market Participants and non-Market Participants that satisfy the following requirements.

- (a) To obtain access to the Protected Data, a Market Participant that is a member of the WECC that requests the Protected Data must: (i) execute and submit to the CAISO the Non-Disclosure Agreement for Protected Data that is posted on the CAISO Website; and (ii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the Protected Data.
- (b) To obtain access to the Protected Data, a Market Participant that is not a member of the WECC that requests the Protected Data must: (i) execute and submit to the CAISO the Non-Disclosure Agreement for Protected Data that is posted on the CAISO Website, (ii) provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-WECC Market Participant, executed by each employee and consultant of the non-WECC Market Participant who will have access to the Protected Data.

- (c) To obtain access to the Protected Data a non-Market Participant that is a member of the WECC that requests the Protected Data must: (i) reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) execute the Non-Disclosure Agreement for Protected Data posted on the CAISO Website, and (iii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the Protected Data.
- (d) To obtain access to the Protected Data , a non-Market Participant that is not a member of the WECC that requests the Protected Data must: (i) reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) execute the Non-Disclosure Agreement for Protected Data that is posted on the CAISO Website, (iii) provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iv) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the Protected Data.

6.5.10.3 Obligation to Report Violations of Section 6.5.10

Each Market Participant, non-Market Participant, employee of a Market Participant, employee of a non-Market Participant, consultant, and employee of a consultant to whom the CAISO distributes the Protected Data shall be obligated to immediately report to the CAISO any violation of the requirements of Section 6.5.10.

6.5.11 Aggregate Generation Outage Data

Each day prior to the applicable Integrated Forward Market, the CAISO will publish Generation outage data for each Existing Zone Trading Hub aggregated by fuel category, for example thermal, hydro or renewable, to the extent such disclosure is consistent with the confidentiality requirements in Section 20.

The report will be for the current Trading Day and for twenty-nine (29) days that follow the current Trading Day. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report within the next thirty (30) days for any given successful Integrated Forward Market run, after which the information will not be provided.

6.5.12 Wind and Solar Forecast and Output

On the day prior to the applicable Day-Ahead Market, the CAISO will post an aggregated Day-Ahead forecast of the expected hourly output of Eligible Intermittent Resources. Approximately 90 minutes before the applicable Trading Hour, the CAISO will post an hourly aggregate forecast of the expected output of Eligible Intermittent Resources. Each day, the CAISO will post for the prior Trading Day by the Trading Hour the actual aggregated hourly output of the Eligible Intermittent Resources. The forecast and actual output will be provided at an hourly aggregated level by the Existing Zone Trading Hubs. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report for any given Trading Day within the next thirty (30) days, after which the information will not be provided.

6.5.13 Suspension of Publication

The CAISO may delay or suspend any data releases specified in Section 6.5 if the CAISO has determined that the publication of such data results in anti-competitive or detrimental impacts to market efficiency.

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Appendix A

Master Definition Supplement

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- Protected Data

Information provided to parties that have executed a Non-Disclosure Agreement as further defined in Section 6.5.10.

- Transmission Constraints Enforcement Lists

The post-Day-Ahead Market Transmission Constraints list and the pre-Day-Ahead Market Transmission Constraints list made available by the CAISO pursuant to Section 6.5.10. The post-Day-Ahead Market Transmission Constraints list consists of the Transmission Constraints enforced or not enforced in the Day-Ahead Market conducted on any given day. The pre-Day-Ahead Market Transmission Constraints list consists of the Transmission Constraints the CAISO plans to enforce or not enforce in the next day's Day-Ahead Market. These lists will identify and include definitions for all Transmission Constraints, including contingencies and nomograms. The definition of the Constraint includes the individual elements that constitute the Transmission Constraint. Both lists will each contain the same data elements and will provide: the flowgate constraints; transmission corridor constraints; the Nomogram constraints; and the list of Transmission Contingencies.

Attachment B – Marked Tariff

Data and Information Release Phase 3 Amendment Filing

California Independent System Operator

Fifth Replacement FERC Electric Tariff

October 5, 2012

6. Communications

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~~6.5.3.3 Communications with Market Participants~~

~~After the results of the Day-Ahead Market are posted, the CAISO will provide to parties that have signed a Non-Disclosure Agreement in accordance with Section 6.5.3.3.1, the daily post-Day Ahead Market Transmission Constraints Enforcement List, which consists of the list of Transmission Constraints, including Contingencies and Nomograms that are enforced and not enforced in that day's Day-Ahead Market. Subsequently and prior to the next Day Ahead Market, the CAISO will provide to parties the pre-Day Ahead Market Transmission Constraints Enforcement List, which consists of the daily list of information for the Transmission Constraints, including Contingencies and Nomograms, the CAISO plans to enforce or not enforce for the next day's Day-Ahead Market. To the extent that the CAISO does not make either of these two reports available on any given Operating Day, the CAISO will instead provide only the list of Transmission Constraints, including Contingencies and Nomograms, that were enforced or not enforced for the applicable Day-Ahead Market within the next thirty (30) days, after which the information will not be provided.~~

~~6.5.3.3.1 Requirements to Obtain the Transmission Constraints Enforcement Lists~~

~~The CAISO shall provide the Transmission Constraints Enforcement Lists only to those Market Participants and non-Market Participants that satisfy the following requirements.~~

- ~~(a) To obtain access to the Transmission Constraints Enforcement Lists, a Market Participant that is a member of the WECC that requests the Transmission Constraints Enforcement Lists must: (i) execute and submit to the CAISO the Non-Disclosure Agreement for Transmission Constraints Enforcement Lists that is posted on the CAISO Website; and (ii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the Transmission Constraints Enforcement Lists.~~

~~(b) — To obtain access to the Transmission Constraints Enforcement Lists, a Market Participant that is not a member of the WECC that requests the Transmission Constraints Enforcement Lists must: (i) execute and submit to the CAISO the Non-Disclosure Agreement for Transmission Constraints Enforcement Lists that is posted on the CAISO Website, (ii) provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-WECC Market Participant, executed by each employee and consultant of the non-WECC Market Participant who will have access to the Transmission Constraints Enforcement Lists.~~

~~(c) — To obtain access to the Transmission Constraints Enforcement Lists a non-Market Participant that is a member of the WECC that requests the Transmission Constraints Enforcement Lists must: (i) reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) execute the Non-Disclosure Agreement for Transmission Constraints Enforcement Lists posted on the CAISO Website, and (iii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the Transmission Constraints Enforcement Lists.~~

~~(d) — To obtain access to the Transmission Constraints Enforcement Lists, a non-Market Participant that is not a member of the WECC that requests the Transmission Constraints Enforcement Lists must: (i) reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) execute the Non-Disclosure Agreement for Transmission Constraints Enforcement Lists that is posted on the CAISO Website, (iii) provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iv) provide~~

~~to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the Transmission Constraints Enforcement Lists.~~

~~**6.5.3.3.2**~~ ~~**Obligation to Report Violations of Section 6.5.3.3**~~

~~Each Market Participant, non-Market Participant, employee of a Market Participant, employee of a non-Market Participant, consultant, and employee of a consultant to whom the CAISO distributes the Transmission Constraints Enforcement Lists shall be obligated to immediately report to the CAISO any violation of the requirements of Section 6.5.3.3.~~

* * *

6.5.6 **Market Bid Information**

6.5.6.1 **Public Market Information**

6.5.6.1.1 **Day-Ahead and Real-Time Market Bids**~~180 Days After Trading Day~~

The following information shall be published on OASIS ninety (90) days following the applicable Trading Day, with the exclusion of the information that is specific to Scheduling Coordinators:

- (a) AS market Bids;
- (b) Energy market Bids, including Virtual Bids separately identified as such; and
- (c) RUC market Bids.

~~**6.5.6.1.2**~~ **Start-Up and Minimum Load Costs**

Within seven (7) days after the Trading Day, the CAISO will publish via OASIS all Start-Up Costs and Minimum Load Costs for CAISO committed resources.

6.5.6.1.3 **CRR Auction Bids**

The CAISO will publish Monthly CRR Auction bids ninety (90) days after the close of the applicable monthly CRR Auctions, with the exclusion of the information that is specific to CRR Holders or Candidate CRR Holders. The CAISO will publish Seasonal CRR Auction bids, in quarterly increments after the expiration of each set of Seasonal CRRs, with the exclusion of the information that is specific to CRR Holders or Candidate CRR Holders.

* * *

6.5.10 Protected Communications with Market Participants

6.5.10.1 Protected Data

The CAISO will provide to parties that have signed a Non-Disclosure Agreement in accordance with Section 6.5.10, the following Protected Data:

6.5.10.1.13-3 Transmission Constraints Enforcement List

After the results of the Day-Ahead Market are posted, the CAISO will provide ~~to parties that have signed a Non-Disclosure Agreement in accordance with Section 6.5.3.3.1,~~ the daily post-Day-Ahead Market Transmission Constraints Enforcement List, which consists of the list of Transmission Constraints, including Contingencies and Nomograms that are enforced and not enforced in that day's Day-Ahead Market. Subsequently and prior to the next Day-Ahead Market, the CAISO will provide to parties the pre-Day-Ahead Market Transmission Constraints Enforcement List, which consists of the daily list of information for the Transmission Constraints, including Contingencies and Nomograms, the CAISO plans to enforce or not enforce for the next day's Day-Ahead Market. To the extent that the CAISO does not make either of these two reports available on any given Operating Day, the CAISO will instead provide within the next thirty (30) days only the list of Transmission Constraints, including Contingencies and Nomograms, that were enforced or not enforced for the applicable Day-Ahead Market ~~within the next thirty (30) days~~, after which the information will not be provided.

6.5.10.1.2 Load Distribution Factors

Three (3) days after the applicable Trading Day, the CAISO will provide the actual Load Distribution Factors used in the Integrated Forward Market for the applicable Trading Day. The CAISO will provide the Load Distribution Factors for each of the Default LAPs' underlying Pricing Nodes for all Pricing Nodes that are identified by the responsible Utility Distribution Company as Pricing Nodes at which there is more than just a single customer. For Pricing Nodes that the responsible Utility Distribution Company has not identified as Pricing Nodes at which there is more than just a single customer, the ISO will publish the respective -Load Distribution Factors in a single aggregated location capturing all such nodes. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to

provide this report within the next thirty (30) days for the applicable Integrated Forward Market, after which the information will not be provided.

6.5.10.1.3 Power Transfer Distribution Factors

Three (3) days after the applicable Trading Day, the CAISO will provide the Integrated Forward Market, HASP and Real-Time Dispatch Power Transfer Distribution Factors for each binding Transmission Constraint in the respective markets. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report for any given successful Integrated Forward Market, HASP and Real-Time Dispatch run within the next thirty (30) days, after which the information will not be provided.

6.5.10.1.4 Transmission Constraints Limits

Three (3) days after the applicable Trading Day, the CAISO will provide a report on the limits associated with all Transmission Constraints, including Nomograms, branch groups, and individual transmission facilities, under both base case and contingencies, that are enforced in the Integrated Forward Market, HASP and Real-Time Dispatch, and that based on the flows in the respective market runs are approaching the limits. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report within the next thirty (30) days for any given successful Integrated Forward Market, HASP and Real-Time Dispatch run, after which the information will not be provided.

6.5.10.23.3.4 Requirements to Obtain the ~~Protected Data~~Transmission Constraints Enforcement Lists

The CAISO shall provide the ~~Protected Data~~Transmission Constraints Enforcement Lists only to those Market Participants and non-Market Participants that satisfy the following requirements.

- (a) To obtain access to the ~~Protected Data~~Transmission Constraints Enforcement Lists, a Market Participant that is a member of the WECC that requests the ~~Transmission Constraints Enforcement Lists~~ ~~Protected Data~~ must: (i) execute and submit to the CAISO the Non-Disclosure Agreement for ~~Protected Data~~

~~Transmission Constraints Enforcement Lists~~ that is posted on the CAISO Website; and (ii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the Market Participant, executed by each employee and consultant of the Market Participant who will have access to the ~~Transmission Constraints Enforcement Lists~~Protected Data.

- (b) To obtain access to the ~~Transmission Constraints Enforcement Lists~~Protected Data, a Market Participant that is not a member of the WECC that requests the ~~Transmission Constraints Enforcement Lists~~Protected Data must: (i) execute and submit to the CAISO the Non-Disclosure Agreement for ~~Transmission Constraints Enforcement Lists~~Protected Data that is posted on the CAISO Website, (ii) provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-WECC Market Participant, executed by each employee and consultant of the non-WECC Market Participant who will have access to the ~~Transmission Constraints Enforcement Lists~~Protected Data.
- (c) To obtain access to the ~~Transmission Constraints Enforcement Lists~~Protected Data a non-Market Participant that is a member of the WECC that requests the ~~Transmission Constraints Enforcement Lists~~Protected Data must: (i) reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) execute the Non-Disclosure Agreement for ~~Transmission Constraints Enforcement Lists~~Protected Data posted on the CAISO Website, and (iii) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the ~~Transmission Constraints Enforcement Lists~~Protected Data.

- (d) To obtain access to the ~~Transmission Constraints Enforcement Lists~~Protected Data , a non-Market Participant that is not a member of the WECC that requests the ~~Transmission Constraints Enforcement Lists~~Protected Data must: (i) reasonably demonstrate a legitimate business or governmental interest in the CAISO Markets, (ii) execute the Non-Disclosure Agreement for ~~Transmission Constraints Enforcement Lists~~Protected Data that is posted on the CAISO Website, (iii) provide to the CAISO a fully executed WECC Non-Member Confidentiality Agreement for WECC Data, and (iv) provide to the CAISO a non-disclosure statement, the form of which is attached as an exhibit to the Non-Disclosure Agreement executed by the non-Market Participant, executed by each employee and consultant of the non-Market Participant who will have access to the ~~Transmission Constraints Enforcement Lists~~Protected Data.

6.5.105.3.3.2 Obligation to Report Violations of Section 6.5.105.3.3

Each Market Participant, non-Market Participant, employee of a Market Participant, employee of a non-Market Participant, consultant, and employee of a consultant to whom the CAISO distributes the ~~Transmission Constraints Enforcement Lists~~Protected Data shall be obligated to immediately report to the CAISO any violation of the requirements of Section 6.5.105.3.3.

6.5.11 Aggregate Generation Outage Data

Each day prior to the applicable Integrated Forward Market, the CAISO will publish Generation outage data for each Existing Zone Trading Hub aggregated by fuel category, for example thermal, hydro or renewable, to the extent such disclosure is consistent with the confidentiality requirements in Section 20.

The report will be for the current Trading Day and for twenty-nine (29) days that follow the current Trading Day. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report within the next thirty (30) days for any given successful Integrated Forward Market run, after which the information will not be provided.

6.5.12 Wind and Solar Forecast and Output

On the day prior to the applicable Day-Ahead Market, the CAISO will post an aggregated Day-Ahead forecast of the expected hourly output of Eligible Intermittent Resources. Approximately 90 minutes

before the applicable Trading Hour, the CAISO will post an hourly aggregate forecast of the expected output of Eligible Intermittent Resources. Each day, the CAISO will post for the prior Trading Day by the Trading Hour the actual aggregated hourly output of the Eligible Intermittent Resources. The forecast and actual output will be provided at an hourly aggregated level by the Existing Zone Trading Hubs. To the extent that the CAISO fails to provide this report on any given Operating Day, the CAISO will endeavor to provide this report for any given Trading Day within the next thirty (30) days, after which the information will not be provided.

6.5.13 Suspension of Publication

The CAISO may delay or suspend any data releases specified in Section 6.5 if the CAISO has determined that the publication of such data results in anti-competitive or detrimental impacts to market efficiency.

* * *

Appendix A

Master Definition Supplement

* * *

- Protected Data

Information provided to parties that have executed a Non-Disclosure Agreement as further defined in Section 6.5.10.

- Transmission Constraints Enforcement Lists

The post-Day-Ahead Market Transmission Constraints list and the pre-Day-Ahead Market Transmission Constraints list made available by the CAISO pursuant to Section 6.5.~~103.3~~. The post-Day-Ahead Market Transmission Constraints list consists of the Transmission Constraints enforced or not enforced in the Day-Ahead Market conducted on any given day. The pre-Day-Ahead Market Transmission Constraints list consists of the Transmission Constraints the CAISO plans to enforce or not enforce in the next day's

Day-Ahead Market. These lists will identify and include definitions for all Transmission Constraints, including contingencies and nomograms. The definition of the Constraint includes the individual elements that constitute the Transmission Constraint. Both lists will each contain the same data elements and will provide: the flowgate constraints; transmission corridor constraints; the Nomogram constraints; and the list of Transmission Contingencies.

Attachment C – Memorandum to ISO Board of Governors
Data and Information Release Phase 3 Amendment Filing
California Independent System Operator
Fifth Replacement FERC Electric Tariff
October 5, 2012

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market & Infrastructure Development

Date: May 11, 2011

Re: **Decision on Data Release Phase 3**

This memorandum requires Board action.

EXECUTIVE SUMMARY

Data Release Phase 3 is the final phase of an initiative established in 2009 to address the release of data that will help market participants better understand market results and more effectively participate in the ISO market. Data Release Phase 1 addressed market participants request for information regarding ISO's management of transmission constraints in market operations. Data Release Phase 2 addressed market participants request for convergence bidding information release. The proposal for phase three addresses the release of additional market model data and anticipated system conditions, outlined below, which provides additional market transparency to better understand market outcomes. This data release should result in increased confidence in the ISO market and provide market participants with additional information to guide their participation in the ISO market and thereby increase overall market efficiency. Under this proposal, the following data would be published:

1. Day-ahead load distribution factors;
2. Day-ahead, hour-ahead, and real-time shift factors for binding constraints;
3. Transmission limits enforced in the day-ahead and real-time markets;
4. An aggregated generation outage report for each trading hub;
5. Congestion revenue rights auction bid data; and
6. A wind and solar forecast for each trading hub.

The stakeholder initiative resolved concerns raised by the ISO and stakeholders which previously prevented the release of additional market model data. The result of the stakeholder process is a proposal which allows the release of data to improve market efficiency while balancing the concerns of various stakeholders.

The ISO established a stakeholder working group to identify information enhancements to be addressed by this phase of the initiative. First, the working group identified certain high priority data that will require policy and tariff changes. In this proposal, Management proposes that the Board approve these changes. Second, enhancements to existing systems that provide market results data to stakeholders were identified. These items do not require tariff changes and will be addressed through a market results redesign project that will begin this year. Third, going forward Management recognizes that requests for new data will be ongoing beyond the conclusion of this stakeholder initiative and an efficient process to address these requests is necessary. Therefore, the ISO will establish an ongoing process to provide an avenue for market participants to submit new data requests and for the ISO to review, respond and implement these future requests.

Moved, that the ISO Board of Governors approves the proposal regarding Data Release Phase 3, as described in the memorandum dated May 11, 2011; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

DISCUSSION AND ANALYSIS

Following a robust stakeholder process that evaluated information requests, Management proposes six new data release elements. A number of these data release elements will be released with a time lag. The time lag is necessary to address potential concerns regarding grid security and potential market manipulation that could occur if the data were released immediately. We also propose to establish an ongoing process to address future data requests.

The ISO plans to complete implementation of the new data release elements by Fall 2012. If a data release element requires a non-disclosure agreement, the information will be published securely through CAISO Market Results Interface (CMRI). All other public data will be published on the ISO public website or Open Access Same-Time Information System (OASIS).

Release of load distribution factors

Load distribution factors are used to distribute load forecasts for defined regions to individual load nodes which are utilized in the market. Load distribution factors are based on load patterns from seasonal base cases. Market participants highlighted several market efficiency benefits of releasing this data. In particular, the data will allow market participants to more accurately analyze and simulate ISO markets, which will enable them to help identify and

improve modeling issues, evaluate the impact of bids on a particular constraint, and better understand the outcomes of convergence bids.

Management proposes that the actual day-ahead load distribution factors be released subject to a 3-day lag. The load distribution factors for each of the default load aggregation points underlying nodes will be provided for all nodes which are not a single customer node (i.e., all of the load at that location belongs to a single customer). For single customer nodes, the nodes will be aggregated into a single load distribution factor for each of the default load aggregation points to avoid releasing the customer's confidential information. Since the data is treated as critical energy infrastructure information, the actual load distribution factors will be made available under a non-disclosure agreement.

Release of binding shift factors

Shift factors reflect the relative impact an energy injection or withdrawal at one location on the network has on the energy flows at another location. Shift factors can allow market participants to more accurately analyze and simulate ISO markets. In addition, as part of the convergence bidding market enhancement, a rule was implemented to reclaim congestion revenue rights revenue if the market participant used convergence bids to increase the value of its congestion revenue rights holdings. This congestion revenue rights settlement rule determines the impact of convergence bids on congestion revenue rights holdings by utilizing the shift factors of the network model. By releasing day-ahead, hour-ahead, and real-time shift factors, market participants will be able to validate the congestion revenue rights settlement rule calculation and perform related market analysis.

Management proposes to release day-ahead shift factors, hour-ahead shift factors, and the real-time shift factors for binding constraints subject to a 3-day lag. Since the data is treated as critical energy infrastructure information, the binding shift factors will be made available under a non-disclosure agreement.

Release of transmission limits enforced

The transmission facilities that comprise the ISO transmission network have specific limits on the maximum power flow they can reliably accommodate. These limits change over time due to temporary equipment outages or other factors, and such changes can significantly impact market outcomes. Market participants requested access to changes in transmission limit assumptions. This information will enable them to update their base market models to more accurately reflect system conditions for the day-ahead and real-time markets. This request was also identified through the Data Release Phase 1 initiative, in which the ISO made available additional reports to market participants. At that time, the ISO committed to address additional release of this information in the subsequent phase 3 of this initiative.

Management proposes to release transmission limits enforced in the day-ahead and real-time markets subject to a 3-day lag. Since the data is treated as critical energy infrastructure information, the transmission limit enforced will be made available under a non-disclosure agreement.

Release of aggregated generation outage data

Generation outages, whether planned or unplanned, can significantly impact market outcomes. Market participants requested additional generation outage data to provide the ability to better align the base market model with actual system conditions. The release of generation specific data would not be allowed under existing confidentiality requirements; however, aggregated generation data is allowed.

Management proposes to release aggregated generation outage data at 5:00 a.m. prior to the day-ahead market. The data will be aggregated for each trading hub and will include the current day plus 29 additional days. The data will identify three fuel categories: thermal, hydro, and renewable. Thermal resources will include gas, oil, nuclear, biomass, and waste. Hydro will include all hydro resources. The renewable category will include solar, wind and geothermal.

If Management determines during implementation that the level of aggregation does not adequately protect individual resources data from being released, the ISO will further consolidate data. In order to protect commercially sensitive data, the ISO may combine trading hubs or fuel categories as necessary and will communicate changes to stakeholders via the implementation process.

Release of congestion revenue rights auction bid data

Several stakeholders requested the release of congestion revenue rights auction bid data similar to what is currently released for energy and ancillary services bids and provided by other ISOs. The release of congestion revenue rights bid data will allow market participants to understand why bids did or did not clear the auction, which will help them to modify bidding behavior in future congestion revenue rights auctions.

Management proposes to release monthly bid data 90 days after the close of the monthly auction and annual bid data in quarterly increments after the relevant quarter has passed. The ISO will not release the name of the market participant that submitted any particular bid.

Release of wind and solar forecasts

In the Renewable Integration: Market and Product Review initiative, the benefits of releasing variable energy resources forecast data has been highlighted as a means to drive day-ahead and real-time price convergence. Currently, the ISO receives meteorological data from a subset of variable energy resources which is then provided to the ISO's forecasting service provider. The forecast is not included in the day-ahead and real-time markets, but the forecasted production from variable energy resources allow market participants to assess the impact on system conditions of variable energy resources supply. The availability of forecast data to all market participants will enable a more efficient market for both physical and financial players.

Currently, the ISO receives meteorological data from approximately 1,200 MW of wind and solar resources, or 25-30% of the total wind and solar resources currently interconnected to the ISO grid. Only resources under the participating intermittent resource program and new eligible intermittent resources are required to provide meteorological data in order to participate in the ISO market. As a result, the forecast data provided will include only resources which provide meteorological data and not the total fleet of wind and solar resources. In addition, the definition of variable energy resources includes other resource types such as small hydro, geothermal, and biomass which will not be included in the forecast.

Since meteorological data is only received from a small subset of wind and solar resources, the initial forecasts will have large errors. However, as new wind and solar resources come on line, the quality of trading hub forecasts will improve, as a larger percentage of the fleet would then provide the necessary meteorological data.

Management proposes to release an aggregated day-ahead forecast by hour at 5:00 a.m. prior to the day-ahead market, an hourly aggregated forecast at 105 minutes prior to the operating hour, and the actual aggregated energy production the following day by hour. Since these resources are generation resources, the forecast will be aggregated by trading hub. The forecast data will also include separate values for wind and solar.

Authority to suspend data release items

The ISO Department of Market Monitoring recommended that the ISO have tariff authority to delay or suspend data release elements if the publication results in anti-competitive or detrimental impacts to market efficiency. Southern California Edison and Pacific Gas & Electric support DMM's recommendation. Management plans to include in its tariff filing, language that explicitly provides that data release may be suspended or delayed if market power mitigation concerns ever materialize.

Market Results Redesign Project

The Data Release Phase 3 working group identified many enhancements to how the ISO delivers existing data to market participants. The ISO plans to commence the Market Results Redesign Project in 2011 which will be led by the ISO Business Solutions group. The project will address enhancements to existing systems that provide data to market participants such as open access same-time information system. Key areas of enhancements will include developing a common reporting interface, establishing software functionality that would meet documented business use cases in terms of usability and performance, and incorporating new reports.

Establishment of ISO process to address future data release enhancements

Management recognizes that the requests for new data from market participants will be ongoing. Therefore, the ISO will establish an interactive process with stakeholders to collect, prioritize, and implement future data release requests. Additionally, we will establish an internal team that will include staff from legal, policy, business, and IT to evaluate submitted data requests on a regular basis. Finally, we will utilize the market performance and planning forum held approximately every six weeks to update stakeholders on implementation activities and provide stakeholders the opportunity to comment on prioritization of data release requests.

The on-going process will be a collaborative effort between market participants and the ISO to identify, prioritize and implement data release enhancements. The ISO believes that similar to the business practice manual change management process, both the ISO and stakeholders will identify enhancements and the process for prioritizing and implementing enhancements will be transparent. In addition, the process will be sufficiently robust so if policy or tariff issues arise, they can be efficiently addressed without establishing a separate stakeholder initiative.

POSITIONS OF THE PARTIES

Stakeholders support the proposed release of additional market model data, congestion revenue rights bid data, generation outage data, and wind and solar forecasts, as this data will allow stakeholders to more efficiently participate in the ISO market.

While the proposed data release items in this initiative address many high priority areas, stakeholders are still requesting further enhancements and additional data to be released. Thus, it is important to stakeholders that the ongoing data release process established by the ISO efficiently address additional data release requests already identified and future enhancements that will arise. A more detailed stakeholder matrix is attached for reference.

MANAGEMENT RECOMMENDATION

The new data elements and information release policy provisions will significantly increase market transparency and enhance market participants' understanding of market results and outcomes. Management recommends that the Board approve the data release proposal as discussed in this memorandum. If approved, the ISO intends to implement the data release items by fall 2011.

Attachment D – Table of Proposed Tariff Changes
Data and Information Release Phase 3 Amendment Filing
California Independent System Operator
Fifth Replacement FERC Electric Tariff
October 5, 2012

Attachment D

Table of Proposed Tariff Changes

Tariff Section	Description
6.5.3.3	Provisions pertaining to the existing release of Transmission Constraints information moved to proposed section 6.5.10.1.1. Blacklines reflected in Attachment B reflect changes necessary as a result of consolidating all protected data information at this location.
6.5.3.3.1	Provisions pertaining to the conditions for release of Transmission Constraints information moved to proposed section 6.5.10.2. The ISO is proposing to apply these same requirements to the data listed in proposed section 6.5.10.1. The blacklines in Attachment B in proposed section 6.5.10.2 reflect the necessary changes to adapt the existing requirements for all the market related data the ISO is now proposing to release.
6.5.3.3.2	Provisions pertaining to the obligation to report violations of the confidentiality requirements moved to proposed section 6.5.10.3. The blacklines in Attachment B in proposed section 6.5.10.3 reflect the necessary changes to adapt the existing requirements for all the market related data the ISO is now proposing to release.
6.5.6.1.1	The ISO is proposing changes to the title of that section to provide a more accurate description of the content of that information, but is not proposing any substantive changes.
6.5.6.1.2	The ISO is proposing to add a title to this section, but is not proposing any substantive changes.
6.5.6.1.3	Proposed provisions enabling the release of CRR auction bids.
6.5.10	Proposing including all provisions related to the release of protected market related data in this section.
6.5.10.1	Proposed introductory language to the new section 6.5.10.
6.5.10.1.1	Moved language from Section 6.5.3.3 to this new section. Blacklines reflected in Attachment B reflect changes necessary as a result of consolidating all protected data information at this location.
6.5.10.1.2	Proposed provisions enabling the release of load distribution factors.

6.5.10.1.3	Proposed provisions enabling the release of shift factors or power transfer distribution factors.
6.5.10.1.4	Proposed provisions enabling the release of transmission constraints limits
6.5.10.2	New section containing existing conditions for release of confidential data from section 6.5.3.3.1, which the ISO now proposes to also apply to the release of load distribution factors, transmission limits, and shift factors. The blacklines in Attachment B in proposed section 6.5.10.2 reflect the necessary changes to adapt the existing requirements for all the market related data the ISO is now proposing to release.
6.5.10.3	Provisions from section 6.5.3.3.2 moved to this new section 6.5.10.3. Blacklines in Attachment B illustrate changes necessary for application of these measures to additional data released under protective measures.
6.5.11	Proposed provisions enabling the release of aggregated generation outage data.
6.5.12	Proposed provisions enabling the release of wind and solar forecast data.
6.5.13	Proposed provisions enabling the suspension of data releases.
Definition “Protected Data”	Proposed definition to be used to refer to all data released under protective provisions under proposed section 6.5.10.
Definition “Transmission Constraints Enforcement Lists”	Changing cross reference to reflect movement of provisions from 6.5.3 to 6.5.10.

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service lists in the above-referenced 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 5th day of October, 2012.

Susan L. Montana

Susan L. Montana