

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

California Independent System) Docket No. ER06-615-002
Operator Corporation)
)

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION JOINT
QUARTERLY SEAMS REPORTS FOR THE
SECOND QUARTER OF 2007**

In compliance with the Federal Energy Regulatory Commission's ("FERC" or Commission) September 21, 2006, order directing "the CAISO and neighboring control areas to meet as needed to resolve seams between them" and to "*jointly* report on the progress of these efforts in quarterly status reports filed with the Commission within 30 days of the end of each calendar quarter,"¹ the California Independent System Operator Corporation ("CAISO") hereby submits joint quarterly reports with Western Area Power Administration ("Western"); Sacramento Municipal Utility District ("SMUD"); WestConnect; Turlock Irrigation District ("Turlock") and Los Angeles Department of Water and Power ("LADWP") regarding seams-related discussions that took place during the second quarter of 2007. The joint status reports identify and, as appropriate, summarize bilateral discussions between the CAISO and neighboring control areas regarding seams issues. In addition, the CAISO also reports on additional seams-related activities and discussions facilitated by the Western Electricity Coordinating Council ("WECC") during the second quarter of 2007.

¹ *California Independent System Operator Corp.* 116 FERC ¶ 61,274 at P 490 (emphasis in original) ("September 21 Order").

I. INTRODUCTION

In an effort to continue to identify and resolve inter-control area seams issues, during the second quarter of 2007 the CAISO has met with: Western, SMUD, WestConnect, Turlock and LADWP. The CAISO is submitting joint reports with these parties as provided below in Part III, and related Attachments, of this report.

In the second quarter of 2007, representatives of the CAISO also met with representatives of other control areas in the Western Interconnection under the auspices of committees organized by the WECC. The purpose of these meetings is to identify and discuss any issues that might exist today or might arise with the inception of MRTU that could affect the operation of interconnected control areas as well as to discuss general seams issues in the Western Interconnection. A summary of those meetings is provided in Section IV of this report. Finally, Section V includes the CAISO's status report regarding certain of the Commission's directives in its April 20, 2007, Order Granting In Part and Denying In Part Requests for Clarification and Rehearing of the September 21, 2006, MRTU Order.²

II. JOINT QUARTERLY REPORT PROCESS

As described further in this document, since the Commission's September 21 Order requiring the CAISO to meet with neighboring Control Areas to resolve seams issues, the CAISO has been diligently seeking to meet with its neighboring control areas to identify and resolve any seams issues. The CAISO

² *California Independent System Operator Corp.*, 119 FERC ¶ 61,076 (2007) ("Order on Rehearing").

is approaching this in a two-pronged fashion: (1) one-on-one meetings with neighboring control areas, and (2) participation in WECC committee activities on regional issues.

In an attempt to fulfill the requirement for a joint reporting process on the meetings with neighboring control areas, the CAISO, working with neighboring control areas, has established what it views as an administratively simple process to ensure that the parties are in mutual agreement on the reports filed with the Commission. This process consists of the following.

- 1) At the time of the meeting the parties discuss the need for a joint report filing with the Commission and agree which party will prepare the first draft of the joint meeting report.
- 2) Within fourteen (14) calendar days following the end of the calendar quarter, the applicable party prepares the first draft of the meeting report and shares this with the meeting participants.
- 3) Within twenty-one (21) calendar days following the close of the calendar quarter the parties submit responsive comments to the entity that prepared the first draft of the meeting summary. Through any required iterations of modifications, the parties reach consensus that the summary may be filed as a joint report.³

³ Should the CAISO and the counter party fail to reach a consensus on the summary, the CAISO shall inform the Commission of this fact in its quarterly report. In such instances, nothing shall limit a party's right to provide additional information, comments or summaries to the Commission regarding seams discussions between the CAISO and neighboring control areas.

- 4) At least one (1) day prior to filing the report with the Commission the CAISO provide to all counterparties a copy of the full text of the quarterly seams report.
- 5) The CAISO then includes all joint reports in the next quarterly report to the Commission or any supplement to such quarterly report.

With respect to the WECC process, the CAISO continues to work with the chairs of the relevant committees to develop a mutually-agreeable description of WECC activities to be filed with this quarterly status report.

III. JOINT REPORT OF THE CAISO AND OTHER CONTROL AREAS

Attachments A – E of this filing include joint reports of the one-on-one meetings between the CAISO, certain neighboring control areas, and WestConnect. As noted above, the CAISO met with the following parties during the first quarter of 2007:

Turlock – April 20, 2007;
Western – April 24, June 5, and June 13, 2007;
SMUD – April 20, and June 5, 2007;
LADWP – June 27, 2007;
WestConnect – April 12, May 9, and June 21, 2007.

The CAISO also initiated discussions with both the Bonneville Power Administration and the Imperial Irrigation District regarding the possibility of entering into Inter Balancing Area Authority Operating Agreements (“IBAAOAs”) with both Bonneville and IID. Such agreements would, among other potential

issues, address each party's need to ensure continued compliance with all applicable reliability standards.

Finally, meetings currently scheduled the third quarter of 2007 include: CAISO-LADWP meeting on August 18, 2007, and CAISO-Western-SMUD meeting on August 21, 2007. In addition, and as further discussed below, the CAISO will also actively participate in the following upcoming WECC committee meetings: August 8, 2007, Seams Issues Subcommittee meeting and the August 8-9, 2007, Interchange Scheduling and Accounting Subcommittee ("ISAS").

IV. WECC SEAMS ACTIVITY

The CAISO continues to work through and with the established WECC committees to identify and discuss potential seams issues. During the second quarter of 2007, the CAISO has engaged in discussions facilitated by the WECC Market Interface Committee ("MIC"), the Seams Issues Subcommittee ("SIS") of the WECC MIC, and the WECC Operations Committee ("OC"). A summary of the WECC SIS discussions is provided below. In addition, in Section V below the CAISO provides a brief summary of its activities before the WECC MIC and OC. The following summary of seams efforts of WECC committees and sub-committees for the second quarter of 2007 was presented to Jerry Smith, Chair of the WECC SIS and Vice-Chair of the MIC. Although this summary has not been formally adopted by the WECC, Mr. Smith authorized the CAISO to state that he has reviewed this summary and personally agrees with it.

Summary of Seams Issues Subcommittee Activities

The SIS held meetings on May 30-31, 2007. **Attachment F** includes draft notes from the May 30-31. Although not yet posted, the meeting minutes are anticipated to be posted on the WECC website (<http://www.wecc.biz>) prior to the next WECC SIS meeting on August 8, 2007.

May 30-31, 2007 SIS Meeting

As summarized in the draft meeting notes, the May 30-31 SIS meeting primarily focused on reports from, and discussions related to, the following California MRTU Seams Areas Evaluation works groups: Resource Adequacy Resources – Exports; the Operations Committee Task Force on MRTU; Tagging Requirements; and Congestion Revenue Rights.

Resource Adequacy Resources – Exports Work Group

As explained in the CAISO's Joint Quarterly Seams report for the First Quarter of 2007 ("First Quarter 2007 Seams Report"),⁴ in paragraphs 159 and 619 of the Commission's April 20, 2007 Order on Rehearing, the Commission stated that exports of energy provided by Resource Adequacy capacity are "non-firm opportunity sales that should be subject to curtailment to prevent or alleviate a system emergency, as is consistent with NERC and WECC guidelines." As noted in the First Quarter 2007 Seams Report, at the March 22, 2007, SIS meeting, the WECC SIS representatives came to a different conclusion and generally agreed that all exports included in final day-ahead schedules are firm.

⁴ First Quarter 2007 Seams Report at p. 16.

Based on the Commission's statement in the April 20, 2007, Order on Rehearing, the WECC SIS reexamined its previous discussion and conclusion regarding whether an export backed by a California Resource Adequacy Resource is subject to recall provisions inconsistent with good utility practices in the West. As summarized in the draft meeting minutes of the May 30-31, 2007 SIS meeting (**Attachment F**), the work reviewed and discussed the appropriate passages of the Commission's April 20, 2007, Order on Rehearing, as well the subsequent filings made by the CAISO, the Southern California Edison Company, and jointly the City of Burbank, California and the Turlock Irrigation District, in response to the Commission's statements regarding exports supported by California Resource Adequacy Resources. In addition, the CAISO prepared, the SIS reviewed, a revised version of the paper presented by the CAISO at the April 22, 2007, SIS meeting on the matter. The revised white paper is dated May 25, 2007, and is included as Attachment 1 to the SIS meeting minutes, included as Attachment F to this filing.

After an exhaustive discussion, the SIS representatives reaffirmed their previous finding and agreed that all exports included in CAISO final schedules are firm. More specifically, the SIS representatives concluded that exports included in CAISO final Day-Ahead Market or Hour Ahead Scheduling Process schedules are firm and, as stated in the SIS meeting minutes, the work group and the SIS are satisfied with the statements and commitments of the CAISO

that it will manage export schedules in a way consistent with general operating practice in the WECC.⁵

Based on the above conclusions, the SIS representatives unanimously passed the following motion:

MOTION:

Based on the review process described above, it is the finding of the SIS that 1) the CISO's treatment of export schedules under MRTU is consistent with general operating practice in the WECC; 2) export schedules accepted in the CISO day-ahead Integrated Forward Market or Hour Ahead Scheduling Process from RA resources in MRTU shall be considered firm for purposes of commercial transactions in the Western Interconnection. SIS concurs with the description of the treatment of RA capacity and exports in MRTU in the CISO's [sic] white paper dated May 25, 2007.

Activities of the Operations Committee Task Force on MRTU

At the May 30-31, 2007, SIS meeting the vice chair of the WECC Operating Committee (OC) updated SIS on OC discussions regarding potential activities associated with MRTU implementation. The vice chair indicated that the OC previously determined to form a task force to review operating topics that may be affected by MRTU. The vice chair also indicated that it appears this may not be as much of a concern as was originally thought and that the WECC Reliability Coordinators will be monitoring system conditions to identify any adverse impacts resulting from the implementation of MRTU. The vice chair indicated that the OC will not be spending time on MRTU concerns unless a

⁵ As stated in the meeting minutes, "The SIS also concluded that it was important to clarify that "firm" bilateral sales that either were not accepted as part of the final Day Ahead Market schedules or were arranged *after* the close of the Day-Ahead Market but subsequent to the start of the Hour-Ahead Scheduling Process, are not firm until, and only if, included as part of the final schedules of the Hour-Ahead Scheduling Process. That is, such bilateral arrangements, regardless of their duration, are not "Firm" but "Hourly Firm" transactions that must be finalized and "firmed up" on an hour-by-hour basis throughout the operating day."

“specific” reliability issue is identified and that so far no specific reliability concern has been brought to the attention of the OC.

Tagging Requirements Work Group

Based on the direction provided at the March 22, 2007, SIS meeting, the Tagging Requirements work group presented a written report indicating that the CAISO has stated that it will adhere to all NERC and WECC standards and business practices related to scheduling and tagging of energy and that no new seams issues are identified with implementation of MRTU. Similar to the issues raised and discussed at the January 16-17, 2007, and March 22, 2007, SIS meetings, the work group discussed previously articulated concerns that a delay in the closing of the CAISO’s day-ahead market may result in an entity missing the 15:00 deadline for submitting e-Tags. Consistent with the discussion at the March 22, 2007, SIS meeting, the work group members written report indicated that the large majority of late market closings are due to CAISO Scheduling Coordinators submitting late schedules and that the frequency of late submissions were decreasing. The work group report also stated that the reason for most of the late submissions is the existing requirement to submit balanced schedules and that such a requirement will be eliminated once MRTU is implemented. As noted in Attachment F, the SIS concurred that the late market closing issue is “an unlikely problem that does not require further evaluation at this time” and stated that both the SIS and the Interchange Scheduling and

Accounting Subcommittee (ISAS) are available to further evaluate this issue as necessary after MRTU implementation.

Congestion Revenue Rights Work Group

As detailed in the First Quarter 2007 Seams Report, at the March 22, 2007, SIS meeting the Congestion Revenue Rights (CRRs) work group facilitated a question and answer session with the CAISO in an effort to better understand the role of CRRs and whether they present seams issues for the SIS to further evaluate. The work group discussed, among other issues, the financial nature of CRRs, how CRRs can be used/applied in the day-ahead market and for imports, and the nature of the hedges provided by a CRR. At that time, the SIS representatives concluded that CRRs represent enough of a change from the current Firm Transmission Right market to require that market participants better understand how to effectively include CRRs in their portfolios. SIS representatives varied in their opinion on the CAISO's management of CRRs but did not find specific "seams issues" related to CRRs. As directed by the SIS at the March 22, 2007, SIS meeting, the work group further reviewed the CAISO's responses to the questions raised about CRRs. As stated in the meeting minutes from the May 30-31, 2007, SIS meeting, "While the industry has varied opinions if the CISO is managing CRRs in the most effective way, the SIS does not find specific "seams issues" related to CRRs at this time. In the future, the SIS will evaluate any specific CRR issues that are within the scope of the SIS and have not already been vetted by the industry and or the FERC."

Congestion Management Work Group

As summarized in Attachment F, at the March 22, 2007, SIS meeting it was determined congestion management is an issue separate from MRTU and will be evaluated on a regional and interconnection-wide basis. The SIS agreed an evaluation of WECC-wide congestion management practices is appropriate and within the scope of the SIS. At the May 30-31, 2007, meeting the SIS requested that the Congestion Management work group undertake a review and examination of the WECC Unscheduled Flow Mitigation Plan (USMP) to determine where the USMP may be deficient, make suggestions for improving the USMP, and a recommendation on next steps for the work group. The chair of the work group was tasked with working with the chair of SIS to organize this effort, including developing a scope or purpose statement for review at the SIS meeting in August.

Defining Seams Issues and Future Meetings

At the March 22, 2007, SIS meeting the SIS discussed the need to define, in the SIS Scope Statement, what is meant by a “seams issue.” Draft language will be included as part of the August SIS meeting. Finally, the chair of the SIS recommended, and the representatives concurred, that the reports of all work groups be gathered into a single SIS report of findings to be finalized at the August SIS meeting, presented at the October MIC meeting, and presented at the December Board of Directors meeting.

V. UPDATE ON CAISO EFFORTS RELATED TO DIRECTIVES IN THE COMMISSION'S APRIL 20, 2007, ORDER ON REHEARING

On April 20, 2007, the Commission issued an Order Granting In Part and Denying In Part Requests for Clarification and Rehearing (“Order on Rehearing”) of its September 21, 2006, order on MRTU. The Order on Rehearing addressed a number of issues raised by parties on seams issues. Among other actions, the Commission’s Order on Rehearing disposed of a number of issues raised in parties’ comments, directed the CAISO to address certain issues, and imposed certain procedural requirements. The CAISO provides an update below on its efforts regarding certain of the Commission’s directives in the Order on Rehearing.

Resource Adequacy Resource Supported Exports – In paragraphs 159 and 619 of the Order on rehearing, the Commission stated that exports of energy provided by Resource Adequacy capacity are “non-firm opportunity sales that should be subject to curtailment to prevent or alleviate a system emergency, as is consistent with NERC and WECC guidelines.” As summarized in Section IV above, at both the March 22, 2007, and May 30-31, 2007, meetings, the WECC SIS representatives came to a different conclusion and generally agreed that all exports included in CAISO final schedules are firm. While the Commission did not direct the CAISO to take any specific action on this matter, the CAISO nonetheless believes that the above detailed discussions on this matter warrant the Commission’s attention.

MRTU Readiness – In paragraph 188 of the Order on Rehearing the Commission encourages the CAISO to provide periodic updates to the appropriate WECC committees and subcommittees such as the SIS on the status of its readiness efforts. In addition, the Commission directs the CAISO and neighboring control areas to include in their joint quarterly reports on seams the input and comments received from WECC Committees.

At the June 13-14, 2007, WECC MIC and OC meetings, the CAISO presented an overview of the CAISO's MRTU Readiness Program and its initial thinking regarding the MRTU Cutover and Reversion Plan. The CAISO's presentation overviewed both the CAISO's *internal* as well as *external* readiness efforts. Among other things, the CAISO explained summarized its market participant readiness outreach and assessment efforts and provided an overview of the CAISO's established MRTU Readiness Metrics. The CAISO also provided an initial outline of, and thoughts on, the components of its MRTU Cutover and Reversion Plan. The CAISO explained that it is just beginning development of the MRTU Cutover and Reversion Plan and would be seeking stakeholder input and feedback over the course of the summer. The CAISO stated that its objective is to finalize the plan in the late summer and early fall for presentation to the CAISO Governing Board and, as directed by the Commission, inclusion in the sixty-day readiness certification filing to the Commission. While no specific feedback on the CAISO's presentation was forthcoming at either the MIC or OC meetings, the

CAISO extended an offer for participants to provide feedback on an ongoing basis.⁶

E-Tagging Requirements – In paragraphs 229 and 230 of the Order on Rehearing the Commission directs the CAISO to provide information to stakeholders on the mechanics of e-tagging interchange transactions. The Commission further states that it agrees with certain parties on the lack of clarity in the MRTU e-tagging requirements and mechanics. The Commission states that the, “Lack of clarity in transaction rules can create barriers to trade.” The Commission thus directed the CAISO to include in its readiness activities a stakeholder process to further address concerns raised by parties about e-tagging rules and include a proposal on how it will address such issues in its next quarterly report.

As summarized in Section IV above, the CAISO has actively engaged in the SIS work group discussions regarding e-tagging requirements and, in those discussions, committed to follow all applicable NERC and WECC e-tagging requirements. As explained above, the primary issue raised with the SIS with respect to e-tagging and the CAISO’s rules has been a concern that a late market closing could result in the late submission, i.e., after 15:00, of an e-tag and the CAISO believes that it has substantially addressed that issue. In addition, and as committed to in the CAISO’s First Quarter 2007 Seams Report, the CAISO has approached the WECC Interchange Scheduling and Accounting Subcommittee to schedule a presentation and discussion of the CAISO’s e-

⁶ As noted in the attached Joint Reports, the CAISO provided a similar presentation to certain of the external control areas with whom the CAISO has met during the second quarter of 2007.

tagging requirements at the upcoming August 8-9, 2007, ISAS meeting. The CAISO will provide notice to all market participants of its presentation and will report back to the Commission on the results of that discussion in its next quarterly report.

Data Exchange – In paragraph 208 of the Order on Rehearing, the Commission stated that, “...we encourage the commenters to work through the appropriate WECC committees to identify and put in place a process for exchange of data among WECC control areas and take advantage of the West-wide System Model.” In addition, the Commission stated that, “We expect the CAISO to participate fully in this process and direct it and neighboring control areas to include in their quarterly joint seams reports the status of efforts on data exchange and modeling.

As the Commission is aware, the CAISO, and all other entities subject to the Commission-approved North American Electric Reliability Corporation’s National Reliability Standards, is endeavoring to ensure full compliance with the applicable standards. Among others, the Reliability Data Sharing Requirements Standard TOP-005-1 provides that Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability share with other such Balancing Authorities and Transmission Operators, upon request, the data necessary to perform operational reliability assessments and coordinate reliable operation of the interconnected system. As summarized in the attached Joint Reports, the CAISO is currently working with its neighboring Balancing Authorities and Transmission Operators to ensure that the CAISO provides, and

is supplied, the requisite information. The CAISO will continue to report on the status of these efforts in subsequent quarterly reports.

VI. CONCLUSION

Wherefore, the CAISO respectfully requests that the Commission accept this quarterly seams status report.

Respectfully submitted,

/s/Anna A McKenna

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Certificate of Service

I hereby certify that I have this day served a copy of this document upon all parties listed on the official service list compiled by the Secretary in the above-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 this 30th day of July, 2007 at Folsom in the State of California.

/s/ Susan Montana

Susan Montana

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION****Joint Report on Control Area Meeting Between the California ISO and
The Turlock Irrigation District
July 30, 2007**

On April 20, 2007, staff members of the California Independent System Operator Corporation (CAISO) and the Turlock irrigation District (TID) met to discuss seams issues that exist between the CAISO and the TID control areas. The purpose of the meeting was to explore any issues that might exist today or might arise with the inception of MRTU that would pose difficulties for the continued operation of the interconnected control areas. FERC directed the CAISO, TID and other adjacent control areas to file at FERC a joint quarterly report regarding progress on the identification and resolution of MRTU seams issues. The parties discussed the following topics:

- *Contingency Plan for MRTU Implementation and Impact on Loop Flow* - TID expressed its concern, and that of WestConnect, for coordination or a contingency plan to respond to any “unintended consequences” as a result of the implementation of MRTU. The CAISO explained the nature of the Phase 1, 2 and 3 Market simulations conducted to date and that they do not suggest any major changes in loop flows as a result of MRTU Market design implementation. The CAISO explained that the generation and import patterns remain fairly similar. The CAISO further explained that models suggest that the present accuracy of contract path based interchange scheduling and load forecast accuracy have a much larger influence on the magnitude of loop flow around the WECC, than would implementation of a new market model. The CAISO stated that MRTU is designed to better anticipate Real Time conditions, including loop flow, by more accurately modeling grid power flows using the FNM. As a result, the CAISO reasoned it should be better able to mitigate any anticipated loop flow.
- *MRTU Full Network Model & Data Exchange Needs to Reliably Forward Schedule Use of the Respective Grids* - TID expressed a preference for a independent entity to hold any exchanged data, e.g., the California-Mexico Reliability Coordinator. TID asked about the Western and SMUD reactions to this same CAISO data exchange proposal. The CAISO presented the need for the sharing of schedule and operations data, to be used by both control areas, to optimize their respective planned, Real Time grid operation, with the mutual objective of enhancing grid reliability. The CAISO indicated that it has

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scheduled working session with Western and SMUD to implement some form of data sharing for this purpose.

- *MRTU Curtailment of Firm Exports from the CAISO (Degree of “Firmness”)* - TID sought assurances that forward purchases of power from within the CAISO, and the associated Firm export to TID, would not be cut. TID questioned the CAISO means of “labeling” non-Resource Adequacy (RA) energy as opposed to RA-sourced energy, in its systems. TID stated that the present CAISO Business Practice Manual allows for cuts of “system sales”. The CAISO explained that the priority of RA Capacity Firm Exports was virtually the same on internal CAISO load. The CAISO noted that the provision for cuts to Firm exports has been in the CAISO Tariff for some time, as well as in the Tariff’s of other Balancing Authorities. The CAISO stated that it would not cut Non-RA capacity energy exports from an RA-unit’s capacity not under RA contract. The CAISO further explained that it intends to develop a system by which Non-RA energy can be tracked for export priority purposes. The CAISO explained that the CAISO is a net importer of energy and an external entity could simply cut imports to the CAISO in response to an CAISO curtailment, and thus firm exports cuts are not practical.
- *Existing Transmission Contract Load Drop Requirement* - TID stated that under the filed MRTU Tariff language that an entity using ETC scheduling rights across the CAISO grid may be required to share in emergency load shedding, even if the load served is in another Balancing Authority. TID stated that this issue was based on MRTU Tariff section 16.5.1, which involves obligations of ETC holders to comply with CAISO operating instructions, including orders to shed load. Turlock indicated that it believes that the issue has been resolved by the Commission’s Order Granting In Part And Denying In Part Requests For Clarification And Rehearing.^{1/} The Order on Rehearing clarified “that, in the event of a conflict between the MRTU Tariff and a control area operating agreement, the agreement prevails,”^{2/} and that the Turlock/CAISO Interconnected Control Area Operating Agreement (“ICAOA”) “is, in fact, the controlling agreement between the parties in system emergencies.”^{3/} Based on the Commission’s clarification, a CAISO operating instruction for Turlock to shed load would be invalid. The CAISO personnel present were not familiar with such a requirement that would result in an external LSE, physically located within an adjacent Balancing Authority, being required to drop load within its Balancing Authority in the event of a CAISO supply–demand emergency, irrespective of the type of transmission used to deliver power across the CAISO to TID. The CAISO subsequently reviewed the applicable CAISO MRTU tariff language and Commission orders and

^{1/} *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076 (2007) (“Order on Rehearing”).

^{2/} *Id.* at P 464.

^{3/} *Id.* at P 465.

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concurs with TID representations above. Therefore, TID and the CAISO now agree this issue is resolved.

- *Anticipated MRTU-related ICAOA Implications* - TID asked if modifications to the TID-CAISO Inter Control Area Operating Agreement are necessary for MRTU implementation. TID specifically mentioned the emergency assistance provisions for either emergency energy or transmission access and what prices might apply. The CAISO indicated that it saw no operations related reasons to change the ICAOA as a result of the implementation of MRTU. However, the CAISO did explain that it is systematically updating its present ICAOAs, working in conjunction with each adjacent Balancing Authority, to reflect adoption of the new national reliability standards and incorporate other enhancements.

Ancillary Services Exports (Purchases) - TID stated that it wants to purchase Ancillary Services (AS) from within the CAISO (on either a bilateral basis or through the Market), and export ancillary services to the TID Balancing Authority. TID referenced filed CAISO language in the MRTU proceeding before FERC that indicated that this functionality would be available under MRTU, just as it is available now under the current market design using “on-Demand” scheduling functionality. Specifically, TID stated that in the MRTU Order^{4/} the Commission rejected Turlock’s request for an evidentiary hearing on MRTU Tariff section 8.4.7.2.^{5/} The Commission based this conclusion on the CAISO’s Answer to Protests filed in Docket No. ER06-615, which the Commission summarized, in part, as stating that “pursuant to MRTU Tariff section 8.4.7.2, entities may arrange for exports of ancillary services prior to the HASP by arranging for on-demand obligations to other control areas.”^{6/} In reaching its conclusion on this issue, the Commission specifically relied on its understanding “that Scheduling Coordinators may arrange for exports of ancillary services prior to the HASP by arranging for on demand obligations to other control areas.”^{7/} In response to the representation by the CAISO that generating units within the CAISO may arrange for the export of ancillary services through on-demand obligations, and the Commission’s reliance on this representation in issuing the MRTU Order, Turlock requests a full explanation of the method by which such arrangements may be made. Given that the implementation of MRTU is less than nine months away, Turlock would like to begin planning for any expected operational changes as soon as practicable. To the extent that the CAISO’s prior representations on this issue, or the Commission’s understanding of such representations, are incorrect, Turlock requests that the CAISO make a filing with the Commission to clarify the intent of section 8.4.7.2 of the MRTU Tariff. The CAISO stated that it does not

^{4/} *Cal. Independ. Sys. Operator Corp.*, 116 FERC ¶ 61,274 (2006) (“MRTU Order”).

^{5/} *Id.* at P 355.

^{6/} *Id.* at P 352.

^{7/} *Id.* at P 355.

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believe that any clarification of section 8.4.7.2 is necessary and is prepared to support the exports of ancillary services through on-demand obligations. The CAISO clarified that this does not mean that an entity can bid to buy ancillary services from the CAISO and export. The CAISO further clarified that it will support on-demand obligations as long as the entity can comply with 8.4.7.2 by identifying that: (1) it is using export transmission capacity available in Real-Time, and (2) the resource capacity providing Energy to satisfy on-demand obligation is not under an Reliability Must-Run or Resource Adequacy obligation, and has not been paid a Residual Unit Commitment availability payment for the applicable Trading Hour(s). The CAISO acknowledged that it has not yet worked out the procedure or communication method for supporting this functionality and that the CAISO is not proposing to automate or develop software to support this functionality. Therefore, the CAISO provided that an entity using the on-demand obligation to export ancillary services will need to coordinate with CAISO operations to satisfy the above requirements. Finally, the CAISO clarified that the CAISO will not procure any reserves to meet the on-demand obligation and that it is the responsibility of the entity doing the on-demand obligations to make arrangements. The CAISO agreed to work with TID to further explain and implement this functionality.

- *Ability of TID to Conduct Inter-Scheduling Coordinator Trades at Intertie Points* - TID expressed a concern that under MRTU the CAISO will no longer support Inter SC trade market schedules at the interties. TID stated that it presently has bi-lateral energy purchase contracts with entities that provide for delivery of power out of the CAISO at the Westley intertie. TID explained that they require the selling entity to cover any CAISO congestion costs and to schedule delivery of the contracted power at the Westley intertie. The CAISO explained that the ability to trade at the ties does not expressly exist under the present CAISO market design. Inter SC trades are deemed to occur within one of the three present Congestion Zones. The CAISO further explained that under MRTU, "EZ Gen" hubs were created to effectively take the place of NP15, ZP26 and SP15 as scheduling points for bi-lateral forward energy market sales (and the related custody exchange) scheduled within the CAISO's market system (SIBR).
- *City and Count of San Francisco AS Imports* – TID and the CAISO previously developed a manual means of accommodating CCSF – TID energy sales under their existing contract as part of the CAISO-TID ICAOA. TID re-stated its request to implement the previously developed method of scheduling its AS capacity rights from CCSF Hetch-Hetchy units to the Oakdale intertie with TID using the CCSF "Non-CAISO" grid transmission system. The TID rights to Ancillary Services from CCSF are provided for under TID's power purchase agreement with CCSF. However, in preparation for this summer's peak load season, TID requested that the CAISO revisit its ability to accommodate these AS exports immediately, under the provisions negotiated in the CAISO – TID ICAOA, independent of the CAISO – CCSF IOA. The CAISO agreed to explore this potential contractual means of initiating CCSF AS exports to TID

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in order to assist TID this Summer. The CAISO is in the process of developing procedures to accommodate the TID-CCSF agreement.

- *Branch Group Limits* – TID expressed concern regarding the lack of flexibility in managing interchange scheduling given the present CAISO scheduling system constraints. TID reiterated its concern regarding the present CAISO Westley – Oakdale Branch Group Scheduling limit of 425 MW. TID also expressed concerns regarding the limitations placed on TID's ability to manage power flow schedules up to Real Time on its three external ties utilizing CAISO SI system protocols for scheduling TOR and ETC rights in combination with non-firm use on the Tracy –Westley transmission system. The CAISO offered to take this issue back for consideration of alternative CAISO system scheduling configurations and/or scheduling limits on the two CAISO – TID interties.
- *Issues requiring resolution before MRTU start-up*- While no issues were identified that require resolution prior to MRTU implementation, the CAISO and Turlock will continue to coordinate to finalize resolution of all issues.

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION****Joint Report on Control Area Meeting Between the California ISO and
Western Area Power Administration**
July 30, 2007

On April 24 and June 13, 2007, the control area operators and other staff members of the CAISO and the Western Area Power Administration (Western) met to discuss seams issues that exist between the CAISO and the Western control areas. The purpose of the meeting was to discuss issues that might arise from the implementation of MRTU and pose difficulties for the continued efficient operation of the interconnected control areas. Western also participated in discussions with the Sacramento Municipal Utility District (SMUD) and the CAISO regarding the modeling and treatment of Adjacent/Embedded Control Areas under MRTU (summarized below) and as part of CAISO discussions with WestConnect (summarized in the WestConnect and CAISO Joint Seams Report).

FERC directed the CAISO, Western and other adjacent control areas to file a joint quarterly report regarding progress on the identification and resolution of MRTU seams issues. At the April 24th and June 13th meetings, the parties discussed the following topics:

- *Change of Pre-scheduling Requirement for Maintenance Outages.* At the January 22, 2007, meeting between Western and the CAISO, Western expressed concern that the CAISO's then proposed 45 day lead time for planned outages under the MRTU Tariff would impede Western's flexibility to perform maintenance when the opportunity presents itself, i.e., when weather and crew availability is favorable. Western stated that it needs flexibility for "reactive maintenance work", so as to avoid having short lead time work labeled as a "Forced" outage. At that time the CAISO representatives expressed willingness to try to better define "significant", and appreciation for Western's support of longer lead times for coordination of major maintenance work.

At the June 13th meeting the CAISO provided an update to Western indicating that the CAISO had refined its outage requirements and proposal. The CAISO indicated that the 45 day pre-scheduling requirement was not applicable to transmission owners in other control areas and thus would not apply to Western. The CAISO explained that the primary driver behind the requirement was to ensure a timely and accurate

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representation of the grid for purposes of administering the CAISO's monthly MRTU CRR process. The CAISO indicated that the primary need is to ensure an accurate representation of the CAISO Controlled Grid. The CAISO remains interested in improving the exchange of outage scheduling information among neighboring control areas, but will be pursuing this as part of an overall outage coordination effort, rather than as a MRTU requirement. Western also inquired whether the CAISO's proposed transmission outage process would have any impact on how transmission outages would be scheduled and managed pursuant on the California-Oregon Intertie (COI) and under the terms of the COI Owners Coordinated Operating Agreement (OCOA) and the related Coordinated Path Operating Agreement (CPOA). The CAISO verified that transmission outages on the COI would continue to be managed pursuant to the terms of the OCOA and CPOA. Western was satisfied with the outcome based on the CAISO's representations. Western also agreed on the need for control areas to closely coordinate transmission outages.

- *Self-Providing Ancillary Services (AS) from Boulder Canyon Project.* At the January 22, 2007, meeting between Western and the CAISO Western inquired as to whether or not an external entity can still import self-provided ancillary services (AS) on the interties with the CAISO Control Area under MRTU. The CAISO explained that AS self-provision via imports are not explicitly accommodated under MRTU, except for under Existing Transmission Contracts (ETCs) or Transmission Ownership Rights (TORs). However, there is an alternative means of "effectively accomplishing self-provision" through the submission of AS bids a "price taker", which would result in the same benefit for market participants that intend to meet their AS obligations for load within the CAISO Control Area. Western expressed concern that a Western customer who was a "price taker" would be reselling federal power (ancillary services). This action would violate Western's long standing prohibition against the resale of federal power, and violate the terms of Western's power sales contracts with its customers. The CAISO agreed to examine and test whether Western could continue to dynamically schedule the federal Boulder Canyon Project (Hoover) resources into the CAISO control area on behalf of its customers. After the CAISO completes testing, and if the testing is successful, the CAISO will work with Western to resolve this issue.

At the June 13, 2007, meeting the CAISO reiterated that it believes it can support dynamic schedules of AS from Hoover. The CAISO stated that it had not yet set up or run the test scenarios, but was planning to include the functionality in the combined MRTU Release 3 and 4 (IMS-R3/4). This session was originally scheduled to begin July 23rd, but now appears to have been slightly delayed. The CAISO indicated that Southern California Edison Company would perform the test as part of their responsibilities for scheduling Hoover. The CAISO indicated that while the testing of this functionality was not yet complete, at this juncture there was no reason to believe the functionality would not work. The CAISO agreed to update

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Western as the testing is completed. The CAISO also agreed to provide Western a draft of the August 3rd compliance filing tariff language related to this issue.

- *Bifurcation of Western's PACI rights under the Transmission Exchange Agreement.* At the January 22, 2007, meeting between Western and the CAISO, Western raised concerns about the CAISO's proposal to bifurcate Western's PACI rights under the Transmission Exchange Agreement (TEA) into two separate components: 1) Transmission Ownership Rights for Malin to Round Mountain, and 2) Existing Transmission Contract rights for Round Mountain to Tracy. If Western's rights are bifurcated into a TOR component and an "ETC-like" component, as suggested by the CAISO at that time, it could preclude Western's use of the PACI as intended by Congress at such time as the TEA terminates, because ETCs cannot be renewed. Western, also, expressed concern about how the 400 MW of TEA rights on the PACI, between Malin and Tracy will be treated from a scheduling and settlements standpoint under MRTU. At that time the CAISO stated it will fully honor the terms and conditions of the three party (Western, PG&E, and the CAISO) TEA agreement under MRTU. The CAISO explained how various combinations of Western's use of its rights under the TEA could be scheduled using the new MRTU SIBR system, such that the proper scheduling priority and settlements treatment would be applied. At the conclusion of the January meeting, the CAISO committed to work with Western and PG&E in the upcoming Transmission Rights and Transmission Curtailments (TRTC) Instructions process to appropriately define the TEA operating instructions to be administered under the MRTU construct so the provisions of the TEA would continue to be administered correctly and so that Western's PACI rights would not be inadvertently stranded and could continue to be renewed in the future should Western so desire. At the June 13th meeting, the CAISO reiterated its commitment to honor the TEA. The CAISO agreed to explore means to expressly codify the unique nature and terms of the TEA. The CAISO also agreed to work further with Western and PG&E to ensure the TRTC instructions appropriately reflected the terms of the TEA.

The CAISO also provided a general view as to how TEA rights would be administered and settled under MRTU. Western stated its concern that it is presently unable to fully utilize its rights under the TEA to sell all or a portion of its 400 MW of rights under its Open Access Transmission Tariff. Western stated that when the TEA was originally executed it agreed not to resell any capacity excess to its needs for a period of one year until MRTU was implemented (according to the then established MRTU implementation schedule) and when the CAISO software could accommodate such sales. Western expressed concerns that three years have passed since the TEA was executed and that Western has an obligation to make the transmission capacity available to others under its OATT. Western indicated it was unable to make its share of any excess capacity on the PACI available as a result of a software problem at the

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CAISO which prevented the CAISO from assigning multiple contract reference numbers (CRN). Under the CAISO's current procedures, the entire 400 MW right is assigned one CRN. In the event Western wants to sell any capacity in excess of its needs, Western would have to continue to remain the scheduling coordinator and also assume any financial liability for the actions of any third parties. If the CAISO were able to assign multiple CRNs, and also ensure that Western would not also be the scheduling coordinator of record for such CRNs, Western would not only be relieved of any financial liabilities, but any associated Federal anti-deficiency issues which may arise there from. The CAISO explained how Western could accomplish such resales under MRTU. Western expressed concern that the CAISO's seven-day notification period for updating TRTC instructions – thus enabling Western's transmission customers to use the available capacity – was problematic since pursuant to its OATT Western must be able to provide *hourly, daily, weekly, monthly, annual and long-term* transmission service. Western and the CAISO discussed possible means to address this issue by identifying Western's eligible transmission customers in the TRTC instructions. The CAISO indicated that if a new customer requests service, that customer could be added to the TRTC instructions, hopefully within the time it would take Western to qualify the customer for service. Western and the CAISO agreed to further discuss and work through this issue. From Western's perspective, it seeks to have the CAISO provide the ability to assign multiple contract reference numbers without subjecting Western to pass through scheduling coordinator costs so Western would be able to post its excess PACI rights unto its Open Access Same-Time Information System for others to use in a non-discriminatory manner.

The CAISO also explained how the TEA would be settled under MRTU. Under the TEA, Western is exempt from congestion and other charges. The CAISO explained how it would implement these provisions. The CAISO walked through how charges would be applied and settled under MRTU. The CAISO explained how Western would be the recipient of the "perfect hedge" revenues necessary to exempt Western from congestion costs. In effect, the CAISO explained how Western would be billed congestion costs but then receive congestion revenues associated with its TEA rights that would exempt Western from congestion costs related to and commensurate with its rights under the TEA. Western expressed concern that even if ultimately netted out and not charged, a CAISO settlement statement that included and listed congestion and other charges may be problematic. The CAISO agreed to provide Western an example settlement statement so that Western could determine if the CAISO's proposed approach was acceptable. Western also expressed serious reservations about its role in receiving, and potentially distributing to its transmission customers, "perfect hedge" related revenues. Western stated that both its statutory and budget authorizations prohibit Western from receiving and distributing such revenues. The CAISO explained the

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difficulty of tracking and distributing the revenues to multiple parties, including Western's transmission customers. The CAISO requested that Western provide the statutory and budget authorization language that prohibits such collections and distributions as a first step in exploring possible remedies. Western appreciates the time and effort CAISO staff have expended in trying to understand our specific issues and concerns. The CAISO and Western have agreed to continue to work together to address and resolve this issue.

- *Development of a Data Sharing Agreement* - At the January 22, 2007, meeting between Western and the CAISO, Western and the CAISO discussed the CAISO's data needs for its Full Network Model (FNM), and the CAISO's objective to ensure an accurate power flow solution that both optimizes use of the CAISO grid and improves reliability of grid operations in real time. The parties agreed that any such data exchanged will involve proprietary data and should be used only for operating purposes (i.e., not for market purposes). At the June 13th meeting, Western continued to express concerns regarding the use and source of the data by the CAISO. Western's principal concern is whether it could be financially liable for providing data to the CAISO that later turns out to be inaccurate. Western stated that it is concerned about possible exposure to both FERC's new market rules on providing inaccurate or false information and possible exposure to financial liabilities if the CAISO establishes what turns out to be incorrect market prices based any inaccurate information unintentionally provided by Western. The CAISO acknowledged Western's concerns and agreed to explore ways to provide Western the required assurances and protection.
- *Resource Adequacy Import Allocation Effort* – At the June 13, 2007, meeting Western inquired about how they can participate in the CAISO Resource Adequacy Import Allocation effort and what kind of information they needed to provide to the CAISO. The CAISO explained that the RA import study and allocation effort was just beginning and would take place over the next several months. The CAISO explained that the 2006 import allocate effort had not included a study and allocation of the CAISO-SMUD/Western interties. The CAISO also explained that Western should provide information regarding its resource or power supply contracts to the CAISO so that the CAISO can include that information in the upcoming study process. The CAISO provided point-of-contact information for providing that information. Western expressed a desire to see the detailed study and its underlying assumptions. In particular, Western expressed a concern about the study and allocation effort and the potential impact on Western-Pacific Gas & Electric Company parallel operations arrangements. Western and the CAISO agreed to continue to coordinate on this matter.
- *MRTU Readiness and Reversion/Cutover Planning* – The CAISO presented information regarding the CAISO's MRTU Readiness program

and the CAISO's MRTU Reversion and Cutover plan. The CAISO provided a general overview of its MRTU Readiness Program, with a focus on its External Readiness efforts and the established Readiness Metrics. The CAISO indicated that in its April 20, 2007, Order on Rehearing of the September 21, 2006, MRTU Order, FERC encouraged external control areas to engage in discussions with the CAISO regarding MRTU Readiness metrics. The CAISO indicated it was providing further information on its Readiness Program to facilitate that process and related discussions and encouraged Western to provide suggestions and feedback.

The CAISO also provided an overview of its MRTU Reversion and Cutover Planning efforts. The CAISO indicated that it was in the process of beginning stakeholder discussions regarding development of its Reversion and Cutover Plan; a plan that will be submitted as part of the CAISO's late November 2007 MRTU Readiness Certification to FERC. The CAISO noted that a number of entities, including external control areas and other entities in the WECC region, have raised concerns about how the CAISO will maintain system reliability during and after the implementation of MRTU. The CAISO explained that the MRTU Reversion and Cutover Plan were intended to address those concerns and issues and encouraged Western to engage in the development of those plans. The CAISO indicated that the planning process had just begun in earnest and that the CAISO will be receiving stakeholder input throughout the summer and early fall.

- *Modeling and Treatment of Embedded/Adjacent Control Areas Under MRTU* (Meeting between Western, SMUD and CAISO) – On June 5, 2007, representatives of Western, SMUD, and the CAISO met to discuss the modeling and settlement treatment for Embedded/Adjacent Control Areas (ECAs/ACAs) under MRTU. The discussions focused on how the CAISO proposed to represent (in the MRTU-related network models and systems) the SMUD/Western control area and how the CAISO will establish related prices. The CAISO explained that its original proposal was to model and price the full detail of the ECAs/ACAs, thereby establishing and revealing Locational Marginal Prices (LMPs) for all resources and scheduling points within the ECA/ACA. The CAISO also explained that to do so, the CAISO would need each ECA/ACA to provide detailed information regarding the scheduling of physical resources within the ECA/ACA, including both “base schedules” regarding how the ECA/ACA would serve its internal load as well as imports/exports and wheel throughs to and on the CAISO system. At the June 5th meeting the CAISO indicated that it had revised its approach based concerns raised by SMUD and Western regarding the establishment of LMPs within their own systems and the voluminous data requirements of the CAISO’s original proposal. The CAISO explained that while its current proposal provided for the detailed modeling of the ECA/ACA transmission system (to ensure an accurate and reliable solution for the CAISO system), the CAISO would

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not enforce any of the constraints internal to the ECA/ACA system and proposed not to establish LMPs for internal ECA/ACA resources. Under the new approach, the CAISO would utilize the existing scheduling points with the ECAs/ACAs and offered to price/settle at those tie points or on an aggregated (i.e., hub) basis. Both SMUD and Western indicated that new CAISO approach was a move in the right direction. The CAISO asked that SMUD and Western consider the pricing/settlement options outlined and that the parties meet again to discuss a final proposal.

- *Issues Requiring Resolution Before MRTU Start-up-* Identification of seams issues requiring resolution prior to MRTU start-up are a priority to Western and the CAISO. The parties have identified for immediate action issues related to the treatment of Western's TEA rights and Hoover resource, and resolution of data exchange issues. The CAISO and Western are working to address the above items and are hopeful that a resolution of these items can be implemented before the start of MRTU.

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR****Joint Report on Control Area Meeting Between the California ISO and
Sacramento Municipal Utility District
July 30, 2007**

On April 20 and June 5, 2007, the control area operators and other staff members of the CAISO and the Sacramento Municipal Utility District (SMUD) met to discuss seams issues that exist between the CAISO and the SMUD control areas. The purpose of the meeting was to discuss issues that might arise from the implementation of MRTU and pose difficulties for the continued efficient operation of the interconnected control areas. SMUD also participated in joint discussions between SMUD, Western Area Power Administration (Western), and the CAISO regarding the modeling and treatment of Adjacent/Embedded Control Areas under MRTU (summarized below) and as part of CAISO discussions with WestConnect (summarized in the WestConnect and CAISO Joint Seams Report).

FERC directed the CAISO, SMUD and other adjacent control areas to file a joint quarterly report regarding progress on the identification and resolution of MRTU seams issues. At the April 20th and June 5th meetings, the parties discussed the following topics:

- *Development of a Data Sharing Agreement* - At the April 20, 2007, meeting between SMUD and the CAISO, SMUD and the CAISO discussed the data information requirements and needs related to the new National Reliability Standards, as implemented by FERC, the North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC). Both SMUD and the CAISO expressed the need to coordinate on and resolve data exchange issues to comply with the new national standards and to improve the reliability of grid operations in real time. The parties agreed that any such data exchanged will be proprietary and used only for operating purposes (i.e., not for market purposes). At the April 20th meeting, SMUD continued to express concerns regarding the use and source of the data by the CAISO. The CAISO acknowledged SMUD's concerns and agreed to explore ways to provide SMUD the required assurances it sought. Subsequent to the April 20th meeting, SMUD and the CAISO were able to mutually agree on a temporary means to provide the appropriate data to one another and ensure continued compliance with all applicable reliability standards.

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SMUD and the CAISO continue to work towards a permanent data sharing arrangement.

- *Modeling and Treatment of Embedded/Adjacent Control Areas Under MRTU* (Meeting between Western, SMUD and CAISO) – On June 5, 2007, representatives of Western, SMUD, and the CAISO met to discuss the modeling and settlement treatment for Embedded/Adjacent Control Areas (ECAs/ACAs) under MRTU. The discussions focused on how the CAISO proposed to represent (in the MRTU-related network models and systems) the SMUD/Western control area and how the CAISO will establish related prices. The CAISO explained that its original proposal was to model and price the full detail of the ECAs/ACAs, thereby establishing and revealing Locational Marginal Prices (LMPs) for all resources and scheduling points within the ECA/ACA. The CAISO also explained that to do so, the CAISO would need each ECA/ACA to provide detailed information regarding the scheduling of physical resources within the ECA/ACA, including both “base schedules” regarding how the ECA/ACA would serve its internal load as well as imports/exports and wheel throughs to and on the CAISO system. At the June 5th meeting, the CAISO indicated that it had revised its approach based on concerns raised by SMUD and Western regarding the establishment of LMPs within their own systems, the voluminous data requirements of the CAISO’s original proposal and the fact that such a requirement would require SMUD to provide third-party data, which SMUD has not been authorized to release. The CAISO explained that while its current proposal provided for the detailed modeling of the ECA/ACA transmission system (to ensure an accurate and reliable solution for the CAISO system), the CAISO would not enforce any of the constraints internal to the ECA/ACA system and proposed not to establish LMPs for internal ECA/ACA resources. Under the new approach, the CAISO would utilize the existing scheduling points with the ECAs/ACAs and offered to price/settle at those tie points or on an aggregated (i.e., hub) basis. Both SMUD and Western indicated that new CAISO approach was a move in the right direction. The CAISO asked that SMUD and Western consider the pricing/settlement options outlined and that the parties meet again to discuss a final proposal.
- *Issues Requiring Resolution Before MRTU Start-up*- Identification of seams issues requiring resolution prior to MRTU start-up are a priority to SMUD and the CAISO. The parties have identified for immediate action issues related to resolution of data exchange issues and the modeling/treatment of Embedded/Adjacent Control Areas. The CAISO and SMUD are working to address the above items and are hopeful that a resolution of these items can be implemented before the start of MRTU.

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION****Joint Report on Control Area Meeting Between the California ISO and
The Los Angeles Department of Water and Power
July 30, 2007**

On June 27, 2007, staff members of the California Independent System Operator Corporation (CAISO) and the Los Angeles Department of Water and Power (LADWP) met to discuss seams issues that exist between the CAISO and the LADWP control areas. The purpose of the meeting was to explore any issues that might exist today or might arise with the inception of MRTU that would pose difficulties for the continued operation of the interconnected control areas. The meeting was arranged and scheduled so as to enable LADWP's wholesale trading staff to attend and address commercial issues and to allow LADWP's grid operations staff to attend other portions of the meeting to address reliability issues.

FERC further directed the CAISO, LADWP and other adjacent control areas to file at FERC a joint quarterly report regarding progress on the identification and resolution of MRTU seams issues. The parties discussed the following topics:

- *Commercial Issues.* Consistent with its earlier articulated concern, LADWP stipulated that before LADWP resumes participation in the CAISO markets, LADWP will need, amongst other things, to confirm that the FERC's must-offer requirement for control areas in California has terminated. CAISO indicated that the FERC must-offer would be terminated and fully replaced with the CPUC's Resource Adequacy (RA) "must-offer" at the start-up of MRTU. The CAISO provided documentation that supported its position that the FERC must offer will terminate upon implementation of MRTU. LADWP also expressed concern that the CAISO may file at FERC to reinstate the must offer obligation at some point in time in the future and may ask to retroactively apply the must offer obligation. The CAISO stated that it would not request, and FERC could not impose, the must offer obligation retroactively on any party. LADWP stated that it would need, as a condition of reentering the CAISO market, an ability to terminate any related agreement with the CAISO should the CAISO attempt to prospectively reinstate the must offer obligation. The CAISO acknowledged LADWP's position and indicated that such conditions were potentially workable.

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- *Modifications to the Existing Inter Control Area Operating Agreement -* Representatives of the CAISO and LADWP discussed appropriate changes to the existing Inter-Control Area Operating Agreement between LADWP and the CAISO to reflect, among other things, implementation of the new National Reliability Standards and other proposed enhancements. Both LADWP and the CAISO acknowledged that a review of, and potential updates to, the existing ICAOA were appropriate in light of the adoption of the new National Reliability Standards. LADWP and the CAISO discussed the possibility of using the ICAOA, or its successor, as a means to exchange data and information as required under the new National Reliability Standards. LADWP and CAISO agreed to exchange terms regarding the non-disclosure and confidentiality of any information exchanged and related discussions. In addition, the CAISO agreed to provide LADWP with a draft of a new pro forma ICAOA (or Inter Balancing Authority Operating Agreement), updated to reflect the requirements and terms of the new National Reliability Standards and other enhancements.
- *Data Exchange-* CAISO and LADWP agreed to confirm the extent to which operational data is currently exchanged and whether additional data is required to comply with the new National Reliability Standards and related FERC/NERC/WECC requirements. In addition, based on concerns expressed by LADWP, the CAISO and LADWP agreed to further examine how data is exchanged today and whether the CAISO is getting information directly from the WECC Reliability Coordinator. LADWP stated that data exchange would be problematic for LADWP until the CAISO could demonstrate that the data will not be used by CAISO for anything other than reliability uses. The CAISO represented that the data is only used for reliability purposes. Representatives agreed to continue discussing the issue of data exchange.
- *MRTU Readiness and Reversion/Cutover Planning –* The CAISO presented information regarding the CAISO's MRTU Readiness program and the CAISO's MRTU Reversion and Cutover plan. The CAISO provided a general overview of its MRTU Readiness Program, with a focus on its External Readiness efforts and the established Readiness Metrics. The CAISO indicated that in its April 20, 2007, Order on Rehearing of the September 21, 2006, MRTU Order, FERC encouraged external control areas to engage in discussions with the CAISO regarding MRTU Readiness metrics. The CAISO indicated it was providing further information on its Readiness Program to facilitate that process and related discussions and encouraged LADWP to provide suggestions and feedback.

The CAISO also provided an overview of its MRTU Reversion and Cutover Planning efforts. The CAISO indicated that it was in the process of beginning stakeholder discussions regarding development of its Reversion and Cutover Plan; a plan that will be submitted as part of the CAISO's late November 2007 MRTU Readiness Certification to FERC. The CAISO noted that a number of entities, including external control areas and other entities in the WECC

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region, have raised concerns about how the CAISO will maintain system reliability during and after the implementation of MRTU. The CAISO explained that the MRTU Reversion and Cutover Plan were intended to address those concerns and issues and encouraged LADWP to engage in the development of those plans. The CAISO indicated that the planning process had just begun in earnest and that the CAISO will be receiving stakeholder input throughout the summer and early fall.

- *Use of Transmission Rights on LADWP's System* – LADWP raised concerns that the CAISO continues to over-schedule rights on LADWP's system. LADWP stated that when the City of Pasadena, California became a Participating Transmission Owner, certain transmission rights that Pasadena held on LADWP's system were converted and made available to users of the CAISO Controlled Grid (162 MW of transmission rights from Adelanto to Sylmar). LADWP stated that since 2005, there have been a number of occasions where the CAISO has submitted schedules in excess of Pasadena's entitlements. LADWP stated that the CAISO has compensated LADWP for these excess schedules, but that LADWP is concerned that the over-scheduling continues to occur. LADWP stated that under the requirements of FERC's Order 890, LADWP must monitor and assess charges for "unauthorized use" of their system. The CAISO committed to investigate this issue and determine whether and why any over-scheduling of Pasadena's converted rights continues to occur.
- *General FERC Order 890 Compliance Efforts* – LADWP and CAISO discussed efforts to coordinate on certain FERC Order 890 compliance efforts. In addition to the transmission rights/"unauthorized use" issue summarized above, LADWP also expressed a desire to coordinate on the calculation of Available Transmission Capacity ("ATC") and Total Transfer Capability ("TTC") and the timing of recalculations and when updates are published on OASIS. The CAISO and LADWP agreed to research these issues and further explore opportunities to coordinate their compliance efforts.
- *Next Steps*. LADWP and CAISO will work together to craft a mutually agreeable joint report to be included in the next quarterly seams report to FERC. The CAISO and LADWP agreed to meet again on August 17, 2007, to follow up on the issues discussed, with a principal focus on making progress on compliance efforts regarding the new National Reliability Standards and related WECC activities.
- *Issues requiring resolution before MRTU start-up*: identification of seams issues requiring resolution prior to MRTU start-up are a priority to LADWP and the CAISO. The parties have identified for immediate action the coordination necessary to ensure satisfaction of all reliability standards and, if any, related mitigation plans. While no MRTU-specific seams issues have been identified to date, not all seams issues may have been identified and may not become apparent until MRTU start-up. As issues become apparent

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concerning MRTU implementation, the parties will work together to resolve them so that MRTU can be implemented successfully on schedule.

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION****Joint Report on Meetings Between the California ISO and WestConnect**
July 30, 2007

Representatives of the CAISO and WestConnect¹ met on April 12, May 9, and June 21, 2007, to continue discussions of seams issues begun in the first quarter of 2007. The purpose of the meetings was to explore any issues that might exist today or might arise with the inception of MRTU that would pose difficulties for the continued operation of the interconnected control areas. FERC directed the CAISO, WestConnect and adjacent control areas to file at FERC a joint quarterly report regarding progress on the identification and resolution of MRTU seams issues. The parties discussed the following topics:

- *Development of Seams Coordination Procedure* - As summarized in the CAISO's First Quarter 2007 Seams Report to FERC, WestConnect originally raised concerns regarding the potential adverse impact on its members' systems resulting from the implementation of MRTU. Subsequent discussions narrowed the focus to concerns regarding reliability and the potential for overloading or otherwise inhibiting the use of transmission facilities on a neighboring party's system. Both WestConnect and the CAISO agreed that such impacts may arise due to factors or conditions unrelated to MRTU and may occur between systems other than the CAISO's and the members of WestConnect. Therefore, the discussions that took place on April 12, May 9, and June 21, 2007, focused on the development of a generic, potentially regionally-applicable procedure for identifying and potentially mitigating operational seams issues between entities.

Toward that goal, WestConnect and the CAISO established a charter for an "Aggregated Bilateral Coordination Task Force" or "ABCTF." The purpose of ABCTF is to develop a "Seams Coordination Procedure." Such a procedure would include a methodology for identifying seams issues that may arise in

¹ Members of WestConnect include Arizona Public Service Company, Salt River Project, Nevada Power Company/Sierra Pacific Power Company, Sacramento Municipal Utility District, Imperial Irrigation District, Public Service Company of New Mexico, Western Area Power Administration, and Public Service Company of Colorado, Tucson Electric Power Company, Southwest Transmission Cooperative, Inc., Tri-State Generation and Transmission Association, Inc., and El Paso Electric Company.

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the future and a process to resolve any such issues. The current draft of the Seams Coordination Procedure proposes:

- A definition of Curtailment Impacts as the trigger for an investigation of a potential seams issue. Objective metrics to establish trigger points are under discussion.
- An investigation process to be followed by a party suspecting seams impacts.
- A referral process for an independent investigation of the suspected impacts by the WECC Seams Issues Subcommittee.

Efforts will continue in the third quarter of 2007 to complete the Seams Coordination Procedures and to present the concept to the WECC Seams Issues Sub-Committee as an information item and a potential model for a standardized regional process.

- *Issues Requiring Resolution Before MRTU Start-Up* - Identification of seams issues requiring resolution prior to MRTU start-up are a priority to WestConnect and the CAISO. While no MRTU-specific seams issues have been identified to date, not all seams issues may be identified or apparent prior to implementation of MRTU. As issues become apparent concerning MRTU implementation, the parties will work together to resolve them so that MRTU can be implemented successfully on schedule.

WESTERN ELECTRICITY COORDINATING COUNCIL

SEAMS ISSUES SUBCOMMITTEE
Meeting Minutes (Draft 2)

May 30-31, 2007
5/30 – 1300-1700 PDT
5/31 - 0800-1200 PDT
Doubletree Hotel at Lloyd Center
1000 NE Multnomah
Portland, Oregon 97232

Please note the SIS has not approved these meeting notes and agreement regarding content has not yet been approved by the SIS.

Attendees:

Jerry Smith	David Lemmons
Ken Otto	David Schiada
Brian Theaker	Michael Hummel
Jim McMorran	John Burnett
Steve Greenleaf	Jim Price
Stephen Beuning	Bill Kirby
Brenda Anderson	Charles Reinhold
Lon Peters	Mike Wells

Minutes of SIS Meeting March 22, 2007 – Approval Item

The minutes of the SIS meeting held March 22, 2007 in Las Vegas, Nevada were approved without modification.

Report of the CISO MRTU Work Groups

The SIS has been evaluating various aspects of the CISO Market Redesign and Technology Upgrade (MRTU) for seams coordination issues. Small work groups were formed and have been evaluating assigned topics. Some of the evaluations have been concluded, the topics discussed at this meeting included:

- Resource Adequacy Resources – Exports
- Activities of the OC Task Force on MRTU
- Tagging Requirements
- Congestion Revenue Rights

The reports of all work groups will be gathered into a single SIS report of findings that will be finalized at the August SIS meeting, presented at the October MIC meeting, and presented at the December Board of Directors meeting.

Resource Adequacy Resources – Exports

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The RAR exports work group lead, David Schiada (SCE), reviewed the past SIS discussion and decisions on this topic and described recent events that need to be addressed. For this discussion please note the following acronyms:

- RA Resource Adequacy
- RAR Resource Adequacy Resource
- IFM Integrated Forward Market
- DAM Day-Ahead Market
- RTM Real-Time Market
- HASP Hour-Ahead Scheduling Process

The State of California is implementing a Resource Adequacy requirement for all Load Serving Entities. Part of the process is for generators to request and qualify to be a “Resource Adequacy Resource” (RAR) to be available to the CISO as needed. Essentially the generator receives a capacity payment to offer energy into the Day-Ahead Market (DAM) and to be available to be called upon in the Real-Time Market (RTM). The key discussion is whether the RAR export is subject to recall provisions inconsistent with normal utility practices in the West.

The SIS evaluated and discussed the “firmness” of RAR exports at both the January 16-17, 2007 meeting and the March 22, 2007 meeting. The issue of whether an export is “firm” is critical in the WECC not only from a market perspective, but due to the manner operating reserve requirements are calculated. If a schedule is not considered “firm” it may require the importer to hold 1-for-1 additional operation reserves or risk being in violation of the reliability standard. At the March SIS meeting, the SIS concluded that RAR exports from the CISO can be considered firm. The minutes of the March meeting state, *“In summary the work group is satisfied with the statements and commitments of the CISO in managing export schedules in a way consistent with general operating practice in the WECC.”*

However, in the FERC Order on MRTU “ORDER GRANTING IN PART AND DENYING IN PART REQUESTS FOR CLARIFICATION AND REHEARING (Issued April 20, 2007), the FERC states in paragraph 159:

As we have explained therein, we disagree with Imperial that exports of energy provided by RA capacity are firm. Instead, consistent with North American Electric Reliability Corporation (NERC) and WECC guidelines, they are non-firm opportunity sales that should be subject to curtailment to prevent or alleviate a system emergency. Curtailment in this situation is appropriate because the resource providing exports has already received a capacity payment in return for making itself available when needed by the CAISO.

The SIS work group and the CISO evaluated this FERC statement and updated the white paper explaining how RAR exports are to be managed. The SIS reviewed the updated white paper, dated May 25, 2007, from Lorenzo Kristov, CISO Principal Market Architect, on this topic entitled, ***“Clarification of CAISO Provisions Regarding Resource Adequacy Capacity and Exports under MRTU”*** which is attached to these minutes as Attachment #1.

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An excerpt from the white paper states:

“Once the DAM has concluded and day-ahead export schedules are established, such export schedules are firm in the usual sense of the word regardless of whether they are served by RA capacity, non-RA capacity, or simply by “the market” which will typically include both RA and non-RA capacity. “Firm” in this case means that the CAISO carries required operating reserves to support these exports, and they are treated as fixed schedules and afforded the highest priority against any reduction in the subsequent RTM/HASP market processes. Similarly, once the HASP has concluded and hour-ahead export schedules are established, such export schedules are firm without regard to their reliance on RA or non-RA capacity, and they are supported by CAISO-procured reserves.”

Following evaluation the work group and the SIS are satisfied with the statements and commitments of the CISO in managing export schedules in a way consistent with general operating practice in the WECC. That is, firm export schedules can be curtailed in system emergencies but that does not include curtailing a firm schedule for economic reasons, i.e., where the recalled resource is more economic than other available resources in the region. The CISO explained that practically speaking, once accepted as part of a final DAM or HASP schedule, exports are as “firm” as internal load. At that point in time, the CAISO will utilize all available resources, including available operating reserves, to serve both firm load and exports. To the extent that system conditions deteriorate to the point where operating reserves fall below minimally acceptable levels, i.e., jeopardize reliable operation of the interconnected grid, the CISO will curtail firm load to preserve system reliability. Although at this point in time firm exports could be curtailed on a pro rata basis with internal firm load, it was noted the CISO operating staff has a philosophy of not cutting exports for an energy supply emergency despite what the tariff may technically permit. A primary reason is the belief that if they cut an export it means an import will be cut an equal amount resulting in no gain. Therefore, while RA resources must be made available to the CISO both for commitment in the DAM and the HASP (if a short start resource), i.e., through real time, the likelihood of curtailing firm exports in real time is de minimus. Prior to taking such actions the CISO will have called all available RA resources with excess capacity, dispatched all available market energy, dispatched operating reserves, and most likely exercised emergency assistance arrangements with neighboring Balancing Authorities.

The SIS also concluded that it was important to clarify that “firm” bilateral sales that either were not accepted as part of the final Day Ahead Market schedules or were arranged *after* the close of the Day-Ahead Market but subsequent to the start of the Hour-Ahead Scheduling Process, are not firm until, and only if, included as part of the final schedules of the Hour-Ahead Scheduling Process. That is, such bilateral arrangements, regardless of their duration, are not “Firm” but “Hourly Firm” transactions that must be finalized and “firmed up” on an hour-by-hour basis throughout the operating day.

In summary, the SIS concludes that in response to concerns raised in comments with FERC and at the MRTU Seams Technical Conference held in December 2006, and the FERC statements in the MRTU order on rehearing, the Seams Issues Subcommittee reviewed the issue of whether export schedules sourced by Resource Adequacy Resources in the CISO

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control area can be considered firm transactions. To facilitate discussion, the CISO prepared a white paper entitled “CAISO Explanations of MRTU Elements Raised by Participants in the Seams Issues Subcommittee.” A draft of this paper was reviewed at the March 22, 2007 SIS meeting and distributed to SIS members for comment. The CISO developed a final version of the paper (Attachment #1) which was reviewed at the May 30-31, 2007 SIS meeting. The CISO’s white paper states that after day-ahead or hour-ahead export schedules are accepted, those schedules, whether backed by Resource Adequacy or non-Resource Adequacy Resources, are considered firm. The CISO’s white paper states that all e-Tags will indicate the schedule is “firm,” and that no schedule will be curtailed outside normal contingency operations.

MOTION:

Based on the review process described above, it is the finding of the SIS that 1) the CISO’s treatment of export schedules under MRTU is consistent with general operating practice in the WECC; 2) export schedules accepted in the CISO day-ahead Integrated Forward Market or Hour Ahead Scheduling Process from RA resources in MRTU shall be considered firm for purposes of commercial transactions in the Western Interconnection. SIS concurs with the description of the treatment of RA capacity and exports in MRTU in the CAISO’s white paper dated May 25, 2007.

The motion was PASSED by unanimous voice vote.

Activities of OC Task Force on MRTU

Don Watkins, vice chair of the Operating Committee (OC) updated SIS on the discussion from the OC meeting on potential activities associated with MRTU implementation.

The OC determined to form a task force to review operating topics that may be affected by MRTU. However, the task force had difficulty in getting volunteers and it appears this may not be as much of a concern as was originally thought. The principle area where SIS anticipated OC task force involvement was evaluating if any special monitoring is warranted for parallel operations upon MRTU implementation. To the extent MRTU causes previously unseen or studied dispatch patterns that alter flows throughout the WECC it may be prudent to monitor for increased congestion, flow, or voltage issues. It is noted however, that the WECC Reliability Coordinators who have the wide-area view of the interconnection will be monitoring system conditions as usual.

Don indicated the OC will not be spending time on MRTU concerns unless a “specific” reliability issue is identified and so far nothing specific has been brought to the OC. Don will discuss any MRTU related reliability concerns with the OC Steering Committee and if anything specific is identified he will notify SIS, otherwise it is correct to state that no reliability concerns have been brought to the Operating Committee.

Tagging Requirements

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The work group completed its evaluation and reported at the March 22 SIS meeting where they were asked to develop a recommendation to the SIS stating that tagging issues have been evaluated, resolved, and the only remaining concern deals with the possibility of late closing of the CISO DA market. The CISO is aware of these concerns but notes this has not been a problem with the current market, the few incidents are decreasing, and MRTU eliminates the current requirement for balanced schedules which is a major cause of late market closings. The SIS concurs this to be an unlikely problem that does not require further evaluation at this time. The SIS, possibly working with the Interchange Scheduling and Accounting Subcommittee (ISAS), is available to further evaluate this possibility after MRTU implementation if it becomes a problem. The final report of the work group is attached to these minutes as Attachment #2.

Congestion Revenue Rights

The SIS discussion on CRRs at the March 2007 meeting led to a conclusion that CRRs represent enough of a change from the current FTRs that market participants will need some time to understand how to effectively include CRRs in their portfolios. While the industry has varied opinions if the CISO is managing CRRs in the most effective way, the SIS does not find specific “seams issues” related to CRRs at this time. In the future, the SIS will evaluate any specific CRR issues that are within the scope of the SIS and have not already been vetted by the industry and or the FERC.

Congestion Management

At the March 2007 SIS meeting it was determined congestion management is an issue separate from MRTU and will be evaluated on a regional and interconnection-wide basis. The SIS agreed an evaluation of WECC-wide congestion management practices is appropriate and within the scope of the SIS. The initial phase of the evaluation will not be an attempt to rewrite the Unscheduled Flow Mitigation Plan (USMP) rather it is to evaluate the needs and potential benefits of an update given the industry evolution since it was approved.

In addition, David Lemmons, a member of the Unscheduled Flow Administrative Subcommittee (UFAS) gave a brief presentation from UFAS on an assignment to flesh out issues with USMP and discuss with SIS if additional evaluation is warranted.

The SIS asked the work group to further develop the following in relation to the USMP:

- Where is the USMP falling short
- What are conceptual suggestions for improvement
- Report to SIS for discussion and determination of next steps including coordination with other WECC groups as warranted

As part of the work group evaluation they plan to monitor flow events in the coming year:

- Number of UFAS events and attempt to determine the causes
- Number of hours of Coordinating Phase Shifter operations
- Non-qualified paths loading issues and what may have been the cause

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SIS chair, Jerry Smith will work with Steve Beuning and or David Lemmons to begin organizing this effort, perhaps including a scope or purpose statement for review at the SIS meeting in August.

Discuss Potential Seams Issues for Evaluation

SIS held a brief discussion regarding the inability of a generator to adjust or curtail e-Tags. A recent example involved a generating entity that needed to cut a schedule to accommodate a fish restriction but both Balancing Areas declined to make the change. This topic will be discussed at the upcoming MIC meeting in June with possible coordination with the ISAS.

Netting of Schedules versus No-Netting

This will likely be addressed as part of the NERC and NAESB ATC standards development work under order of the FERC. The MIC has four members as part of the drafting teams so this issue becomes a backburner item awaiting action on the standards.

Mismatched Transmission Rights – One Side Limited

This concerns allocation of transmission rights when an interface is constrained on only one side of the interface. This is most evident at the California-Oregon Intertie (COI) but would apply to other locations as well. The current practice introduces the possibility that over-curtailing could take place. At the March SIS it was determined to evaluate this concern but no update or report was available for this meeting.

Defining “Seams Issue”

At the March SIS meeting it was noticed the SIS Scope Statement (charter) does not define what is meant by a “seams issue.” SIS discussed whether there is a need for us to define “seams issue” and determined to review some draft language prior to the May SIS meeting. However, draft language had not been developed and will be included as part of the August SIS meeting.

SIS Vice Chair

At the SIS meeting in March 2007, SIS chair Jerry Smith expressed desire for an SIS vice chair to assist in leading the subcommittee and requested volunteers. An invitation for volunteers was also included in the distribution of the agenda for this meeting.

Ken Otto (WAPA-TC) has accepted the position of SIS vice chair.

Future Meetings

The next SIS meeting:

August 9, 2007 (Thurs) from 8:00 am – 5:00 pm

Location: Boise, Idaho (in conjunction with MIS and ISAS meetings)

Adjourn

ATTACHMENT #1**Clarification of CAISO Provisions Regarding Resource Adequacy Capacity and Exports under MRTU**
For discussion at Seams Issues Subcommittee, May 30-31, 2007**Overview**

1. This document explains the relationship, in the context of the CAISO's redesigned MRTU markets, between the status of generating capacity within the CAISO control area as Resource Adequacy (RA) capacity or non-RA capacity, and the treatment of exports being supplied by such capacity. In particular, this document is intended to affirm and clarify the fact that export schedules established in the MRTU markets – the day-ahead Integrated Forward Market (IFM) and the real-time Hour Head Scheduling Process (HASP) – are firm energy schedules consistent with the conventional meaning of "firm" as used in the western region.¹ Once export schedules have been established in the MRTU markets they will be tagged as "firm." Paragraphs 2-4 below summarize the basis for this fact; the remainder of the paper provides additional details.
2. Much of the misunderstanding around the matter of the firmness of energy schedules under MRTU stems from the need to distinguish two aspects of the treatment of exports.
 - a. The rules and procedures for establishing firm export schedules in the MRTU markets (IFM and HASP); and
 - b. For firm export schedules that have been established as part of a final IFM or a final HASP schedule, whether there are circumstances under which such schedules might subsequently be curtailed by the CAISO.

The distinction between RA and non-RA capacity is relevant for (A) but not (B). MRTU does specify certain rules affecting the ability to establish firm export schedules in the IFM and HASP, depending on whether an export bid submitted to one of these markets is linked to non-RA generating capacity offered into the same market. However, once an export bid clears the market and becomes part of a final IFM or HASP schedule, the distinction between RA and non-RA capacity has no relevance to the firmness of that schedule. All such final schedules are firm and will be tagged as such.

3. Regarding item (A), because RA capacity is paid for by load-serving entities (LSEs) who serve load within the CAISO control area, capacity that is under contract to meet RA requirements must be available to meet CAISO control area load and operational needs through participation in the Day Ahead Market (DAM), which includes both the Integrated Forward Market (IFM) and the Residual Unit Commitment (RUC), as well as the Real Time Market (RTM) which includes the Hour Ahead Scheduling Process (HASP). This principle and the distinction between RA and non-RA capacity will affect the ability of parties to establish firm export schedules in the IFM and in the HASP. In particular,

¹ The use of the terms "firm" and "firm schedule" in this paper refer only to firm energy transactions and schedules. There is no discussion of firm versus non-firm transmission because that is not the subject of this paper. It is important to recognize, however, that all transmission service offered by the CAISO, both in the current system and under MRTU, is firm. The CAISO does not today and will not under MRTU offer non-firm transmission service.

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certain special provisions in MRTU allow parties additional flexibility to establish firm day-ahead (IFM) and hour-ahead (HASP) export schedules that explicitly rely on non-RA capacity.

4. Once the DAM has concluded and day-ahead export schedules are established, such export schedules are firm in the usual sense of the word regardless of whether they are served by RA capacity, non-RA capacity, or simply by “the market” which will typically include both RA and non-RA capacity. “Firm” in this case means that the CAISO carries required operating reserves to support these exports, and they are treated as fixed schedules and afforded the highest priority against any reduction in the subsequent RTM/HASP market processes. Similarly, once the HASP has concluded and hour-ahead export schedules are established, such export schedules are firm without regard to their reliance on RA or non-RA capacity, and they are supported by CAISO-procured reserves.

Background on Bid Submission: Economic Bids and Self Schedules

5. A “bid” is the generic name for the template that each Scheduling Coordinator (SC) submits to the CAISO – on a daily basis for the Day Ahead Market (DAM) and on an hourly basis for the Real Time Market (RTM) and Hour Ahead Scheduling Process (HASP).
6. Within a bid there are two main ways that energy supply (generation and imports) and demand (load and exports) can be submitted: (1) as an “economic bid” – having MWh quantities and a bid price associated with each quantity, or (2) as a “self-schedule” – having MWh quantities without any prices associated. In the RTM and HASP parties cannot submit self-schedule changes for internal load, so their actual RT load deviation (from DA schedule) is deemed to correspond to any self-scheduled supply changes in HASP.
7. The self-schedule provision was designed into MRTU to allow for the preference of some participants to serve their demand using their own resources or bilateral contracts, without buying or selling energy in the CAISO markets.
 - Under MRTU – in contrast to today’s CAISO markets – there is no requirement for submitted self-schedules to be balanced. Moreover, in almost all cases the market optimization does not recognize any linkage between the supply bids or self-schedules and the demand bids or self-schedules submitted by an SC. Rather, the optimization looks at the entire set of submitted bids and self-schedules for supply and demand, and clears the market as a whole and calculates energy prices at each grid location (LMPs) that are used for settlement. (One special case, of course, is the special treatment available for exports discussed in the next section.)
 - Even if an SC does submit balanced supply and demand self-schedules, such schedules are still using the CAISO grid and must settle for the costs of congestion and losses, even though they are not transacting energy in the markets. For an accepted self-schedule that has balanced quantities of supply and demand, settlement based on the LMP differential between the supply and demand locations will reflect the costs of congestion and losses. (See the separate presentation for detailed examples of how this works.)
8. When the market optimization runs, it will try to “clear the market” – that is, balance supply against demand plus losses for the system without violating any transmission

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- constraints – using only the economic bids, that is, by treating all the submitted self-schedules as effectively fixed² and not making any adjustments to them.
9. If it is not possible to clear the market using only economic bids, then the optimization will make “non-economic” adjustments to submitted self-schedules in order to balance the system and eliminate congestion. When such adjustments are necessary, two rules apply:
 - a. First, the optimization follows a “scheduling priority” sequence among self-schedules. Starting with the LAST ones to be adjusted (that is, the highest scheduling priority), the order in the DAM is as follows:
 - Reliability Must Run (RMR);
 - Transmission Ownership Rights (TOR);
 - Existing Transmission Contracts and Converted Rights (ETC and CVR);
 - Regulatory Must Run and Regulatory Must Take; and
 - “Generic” energy self-schedules, the first to be adjusted. (See filed Tariff Sec. 31.4. Priority sequence for RTM/HASP is a little different; see Sec. 33.3.)
 - b. Second, within each priority level, the optimization will usually adjust the most effective self-schedules first in order to minimize the total MW amount of submitted self-schedules that are reduced.
 10. Because self-schedules do not indicate the prices they are willing to accept for supply or the prices they are willing to pay for demand, accepted self-schedules are settled as price takers. As noted above, for an SC whose accepted self-schedule features a balanced quantity of supply and demand, the settlement based on the LMP differential between the supply and demand locations will reflect only the costs of congestion and losses.

Resource Adequacy (RA) Capacity and Exports in the DAM

11. In general, exports submitted as self-schedules in the DAM are “generic” self-schedules with respect to the scheduling priorities listed above.
12. Within the class of generic self-schedules, generic export self-schedules usually have lower scheduling priority than generic internal demand self-schedules. This means that if the market optimization cannot clear the market using only economic bids, because the amount of available supply in the market is not sufficient to cover both self-scheduled internal demand and self-scheduled exports, the self-scheduled exports will be reduced first.
13. The reason for establishing this priority is because LSEs serving load within the CAISO were required to procure RA capacity to meet a specified planning reserve requirement, and this capacity must be offered into the DAM. In the extreme situations where such capacity is not enough to meet self-scheduled internal demand, the LSEs who paid for the RA capacity get the first opportunity to utilize the associated energy in the DAM.
14. There are two ways for a party to submit self-scheduled exports and receive scheduling priority in the DAM that is equal to the scheduling priority of generic internal demand.

² The submitted self-schedules are effectively fixed relative to economic bids by using extremely high-priced extensions to form a bid curve around the self-schedule, to ensure that economic bid adjustments are made prior to non-economic adjustments to self-schedules.

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- a. Submit a wheeling schedule, in which the MW of self-scheduled exports are matched with equal MW of self-scheduled imports. The optimization will see the two sides of this self-schedule as matched and either will not adjust them at all or will adjust them in a balanced manner. Moreover, any such adjustment would only occur as a result of congestion, not for a supply-demand imbalance. The reason is that adjusting a wheeling schedule would always adjust supply and demand in equal quantities and thus would have no effect on relieving a supply-demand imbalance.
 - b. Submit an export self-schedule linked to an equal MW quantity of non-RA capacity that is offered – with either a self-schedule or economic bids – into the DAM (which may be used in the IFM or the RUC), and into the RTM if the unit is physically capable. In this case the market optimization might not even schedule energy from the non-RA capacity, but the fact that it was offered is sufficient to obtain scheduling priority for the self-scheduled export that is equal to the priority for self-scheduled internal load.
15. Once an export that is registered in the Master File as firm clears the DAM and is part of a final DA schedule, it is a firm schedule consistent with the conventional meaning of that term. Under current WECC MORC, this means the CAISO as the sending Control Area will ensure sufficient operating reserves are procured to support the firm export. In doing so, the CAISO expects such firm export to be tagged accordingly. Moreover, as a firm schedule that has cleared the DAM, the export also has the highest priority against any subsequent curtailment in the RTM/HASP processes, as described below.

RA Capacity and Exports in the HASP

16. Bids are submitted no later than T-75 to be used in the HASP and RTM processes.³ In the HASP, all of the economically bid and self-scheduled supplies (generation and imports) are cleared against the CAISO's forecast of internal RT demand plus all the economically bid and self-scheduled exports.
17. As in the DAM, the market optimization tries to clear the market using only economic bids, treating all the submitted self-schedules as fixed. In this optimization, the final DA schedule is also treated as fixed and cannot be adjusted. If economic bids are not sufficient to clear the market in the HASP, then "non-economic" adjustments are applied to newly-submitted self-schedules in a manner analogous to the DAM, following the sequence of scheduling priorities.
18. Analogous to the DAM rule for "generic" self-schedules, export self-schedules in HASP have lower priority than the CAISO forecast of internal demand, which means that if there is not enough supply to meet the internal demand forecast, export self-schedules will be reduced.
19. As in the DAM, a party wishing to submit an export self-schedule in the HASP and receive equal scheduling priority to the internal demand forecast can submit either a wheeling self-schedule, or an export self-schedule that is linked to an equal MW quantity – that is offered into the RTM – of non-RA capacity or even to RA capacity that was not scheduled in the DAM (IFM or RUC).

³ Actually, the HASP is one of the several market processes that comprise the RTM. The best way to think about HASP is as the MRTU equivalent – with some additional functionality – of today's Real Time Pre-dispatch by which the CAISO procures Supplemental Energy from imports.

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20. As in the DAM, once an export clears the HASP and is part of a final HASP schedule, it is a firm schedule consistent with the conventional meaning of that term. Under current WECC MORC, this means the CAISO as the sending Control Area will ensure sufficient operating reserves are procured to support the firm export. In doing so, the CAISO expects such firm export to be tagged accordingly.

RA Capacity and Exports in the Real Time Operating Time Frame

21. Although the CAISO has tariff and operating provisions that allow it in principle to curtail exports in RT under contingency conditions, in practice the CAISO has consistently avoided such action because it is not viewed as an effective way to manage contingencies. That is, CAISO operators fully expect that any RT curtailment of exports would be promptly offset by a comparable curtailment of our imports, resulting in zero net impact.
22. The CAISO believes that its emergency provisions allowing curtailment of exports in RT are fully equivalent to the capabilities all western control area operators or balancing authorities have available to
23. them to manage emergencies, and therefore should not be viewed as in any way degrading the firmness of established DAM or HASP export schedules.

ATTACHMENT #2**Status of Tagging Requirements Work Group
of the WECC Seams Issues Subcommittee****For Discussion: May 30, 2007**

Jim Price (CISO)

Bob Schwermann (SMUD)

Bill Kirby (PGE)

At the March 22, 2007, Seams Issues Subcommittee (SIS) meeting, the Tagging Requirements work group of SIS was asked to summarize its findings in a written report for the SIS meeting on May 30-31, 2007, on the evaluation and resolution of tagging issues.

During its meetings to date, SIS has considered several issues related to the CAISO's Market Redesign and Technology Upgrade (MRTU) program. These include whether MRTU will change the CAISO's adherence to all NERC and WECC standards and business practices related to scheduling and tagging of energy, and whether there are impacts of having different market timelines in different parts of WECC. The conclusion from both the January and March 2007 meetings has been that MRTU does not change existing practices, and that no new seams issues are anticipated with implementation of MRTU.

A topic was considered as to whether including added detail in tags may be a solution to assessing unscheduled flow and managing congestion, which relates to a question raised by the CAISO as to whether SIS wanted to consider implications of the CAISO's recently-added requirements for additional information including identification of source resources. On this question, SIS recommended that the CAISO should work with the Interchange Scheduling and Accounting Subcommittee (ISAS) concerning the structure of tags. Other SIS participants asked whether using tags for internal transactions could be a solution to assessing unscheduled flow and managing congestion, but this is not required by NERC and WECC standards and business practices. Improved data exchange concerning schedules within control areas would be an appropriate topic for the Congestion Management work group of SIS, but is not an issue of tagging requirements.

Another topic that has been discussed in SIS meetings is the impact of late publication of schedules from the CAISO day-ahead market. The CAISO presented an analysis of its operating logs at the March meeting, which demonstrated that the large majority of late market results have occurred when Scheduling Coordinators were late in submitting schedules, and that the frequency of late market closings is generally decreasing over time. The need for balanced schedules, including balanced trades between SCs, has been the source of most of the late submissions. When SCs are late in balancing, the CAISO has been unable to run its market on time. Under MRTU, the requirement to submit balanced schedules is removed, and running the CAISO's markets no longer depends on inter-SC trades. Thus, MRTU helps to resolve existing issues.

Finally, a certain concern was raised that problems with MRTU software may delay market closings or otherwise impair market operations. Before its required certification to FERC that MRTU is ready for implementation, the CAISO is going through extensive testing

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of its software systems, and has included sequences of procedures in its software design to ensure successful execution of the MRTU market software. The CAISO will also be complying with FERC directives to submit a "contingency plan" to FERC that addresses any failure of MRTU systems or software, as part of the CAISO's readiness effort and certification.

Since the March SIS meeting, the Tagging Requirements work group further reviewed the CAISO's presentation about the publication times of day-ahead market results, and did not identify any new issues.

Thus, there are no outstanding new issues in this area that are caused by or complicated by MRTU. The CAISO's quarterly report to FERC does indicate that work remains for the CAISO to provide information to stakeholders on the mechanics of e-tagging interchange transactions, and that the CAISO is prepared to further discuss its e-tagging rules and practices through SIS, ISAS, and/or the Market Issues Subcommittee's Prescheduling Evaluation Task Force. The CAISO will be working with the appropriate WECC representatives to determine the appropriate venue and schedule a presentation and discussion of the CAISO's e-tagging requirements.