

**CDWR-SWP Comments to CAISO on
“Parameter Tuning for Uneconomic Adjustments”
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In accordance with the schedule set forth following the September 25, 2008 CAISO/MSO joint meeting on Parameter Tuning/Uneconomic Adjustments (Proposed Policy), the California Department of Water Resources State Water Project (CDWR-SWP) is pleased to offer Comments to the MSO and the CAISO staff. These Comments are in two parts: 1) a discussion on the CAISO Proposed Policy and 2) a discussion on a conceptual alternative proposal by City and County of San Francisco (CCSF). CDWR-SWP supports CCSF's efforts and believes that the CCSF proposal (along with CDWR-SWP refinements) is worthy of an in-depth review and possible adoption by the CAISO.

CAISO Staff Now Agrees with Stakeholders on Adverse Impacts

- This Proposed Policy makes ETC generation and load more vulnerable to curtailment than ordinary CAISO load.

CDWR-SWP reiterates its concerns over the CAISO staff's Proposed Policy due to: (i) the potential for undue discrimination towards Existing Transmission Contracts (ETC) holders; (ii) operational impacts to CDWR-SWP facilities during critical water pumping operations; and (iii) increased financial risks imposed on ETC-holders as a result of failure of the MRTU computer programs to comply with tariff commitments to honor ETCs schedules, which will have been adjusted pursuant to the Proposed Policy.

CDWR-SWP has actively participated in the stakeholder process that has led to the Proposed Policy. During each opportunity for comments, CDWR-SWP has outlined its concerns for fundamental flaws and unintended consequences of the Proposed Policy.

CDWR-SWP appreciates the CAISO's recent recognition of such concerns – “[t]he ETC/TOR parties identified another concern with the Uneconomic Adjustment approach, which is in fact a consequence of (1) the use of large Default LAPs for scheduling and settling most of the load in each of the IOU service territories, compared to (2) the requirement for existing rights holders to schedule and settle their load at the actual physical location for which its contractual rights are specified, typically a Custom LAP which is a small subset of a Default LAP.” (September 19, 2008 Whitepaper, p.11)

Most telling is the CAISO staff's own admission to the most fundamental flaw of the Policy – the inability of the Policy to observe and obey the FERC's and Congress' clear instructions to “honor the ETCs”. Specifically, the Whitepaper states: “The practical result of this approach is that ETC load may actually get lower scheduling priority than non-ETC load” (September 19, 2008 Whitepaper, Section 3.5).

Due to the Policy's design, it unfairly supports the schedules for deliveries at the Default Load Aggregation Points (DLAP) at the expense of the obligation to honor firm transmission rights, with the highest of priorities, for ETC schedules. The CAISO staff has said on frequent occasions that if a schedule needs to be adjusted pursuant to the Policy, the CAISO will habitually hit the ETC schedules and leave the DLAP untouched.

Thus, the CAISO has set up a framework in which it must discriminate against firm ETCs in order to avoid impacting lesser-priority schedules within the DLAP.

Three Elements that Must be Part of the Solution

Today's Comments are not meant to be a repetition of the problem, which both the ETC-holders and the CAISO now recognize. Rather, CDWR-SWP wishes to point out that those concerns were well-merited and, therefore, it is vital that the CAISO address those concerns before its MRTU “goes-live”.

CDWR-SWP recognizes that the CAISO has a daunting task for implementing the MRTU. Therefore, CDWR-SWP continues to try to assist the CAISO to develop reasonable modifications (e.g., work-arounds) that could enable CDWR-SWP to support the Proposed Policy when it is filed with FERC. To start with, CDWR-SWP believes that the CAISO must develop solutions to the Policy's flaws in regards to three elements that are vital to ETC-holders – “frequency”, “duration”, and “protection”.

- The CAISO must predict the frequency and duration of schedule adjustments to ETC-holders.

All CAISO transmission customers have a reasonable right to expect reliable transmission service. But the Proposed Policy puts this expectation into doubt – and such doubt should not be associated with supposedly high-priority firm ETC service. A reasonable understanding of the frequency and duration of CAISO schedule adjustments is especially important to CDWR-SWP's critical missions of pumping/delivery of water and flood-control. The final Proposed Policy must not only minimize such adjustments, but it must also give CDWR-SWP a high level of confidence of when our operators can anticipate an upcoming period of probable adjustments.

Second, due to the very nature of our mission to deliver water throughout the year, there will be times in which the “greater good” of fulfilling our mission – through the use of reliable transmission service of a quality and high-priority that reflects actual ETC rights – outweighs the temporary, albeit convenient, value to the CAISO of adjusting

CDWR-SWP generation or load schedules. During such times, it is imperative that the CAISO develop procedures in which CDWR-SWP's operations in the Oroville Complex and the Delta pumping plants can be considered to be "off-limits" to any Policy-imposed adjustments.

It is important to recognize the underlying reason for the Proposed Policy. The Policy was created for economics, not emergencies. Therefore, it is inappropriate for the CAISO to impact critical water operations simply to affect market prices.

The third area that must be addressed is that of "protection". Several parties have explained to CAISO staff that an ETC-holder can be exposed to significant costs and penalties if the CAISO adjusts, rather than honors, an ETC schedule. Significantly, these costs and related problems are in no way of the ETC-holder's making. CDWR-SWP believes that the CAISO did not intend to increase costs to ETC-holders, yet the unintended consequence of the Policy does indeed lead to costs and potential penalties such as: i) congestion, uninstructed deviation, uninstructed imbalance energy, loss of RUC revenues, and penalties for under-scheduling and ii) additional costs of reactive operational changes to downstream plants during periods of uninstructed deviation, and subsequent "make-up" costs of moving deferred volumes of water.

- Any refinements to the Proposed Policy must include protection to ETC-holders from any and all financial, legal, and operational impacts that are attributable to the Policy.

The CAISO must abide by the maxim of "Do No Harm" if it wishes to implement the Policy. Therefore, CDWR-SWP recommends that the CAISO reverse any, and all, charges that its settlement system imposes upon an ETC-holder that is attributable to this Policy. Further, ETC-holders should be held harmless from any market manipulation or tariff violation allegations (as with under-scheduling) resulting from the CAISO's unilateral adjustments to ETC schedules under this Policy.

The Proposed Policy is an Unfinished Task

Once again, CDWR-SWP appreciates the complexity of the Policy, and overall, the MRTU. We wish to support the CAISO's efforts to implement the new market design – that is why CDWR-SWP continues to provide ideas for solutions to the problems created by the Policy. We are still awaiting definitive responses from the CAISO staff regarding our previous recommendations and proposals.

It must be noted that even when the CAISO staff finally does prepare such definitive responses to our previous list of solutions, there is still much work to be done. Any work-around will need to be crafted so as to fit within the existing regulatory and contractual frameworks which may be slightly different between the various ETC-holders (i.e., "no one size fits all"). Each ETC-holder will need to review and test the solutions that the CAISO is willing to accept. There may be impacts to operations or settlements that, while unintended, must require further refinement to such solutions.

In addition, there may be collateral impacts between this Proposed Policy and other CAISO programs/initiatives, e.g., the current Participating Load market. If so, and if the CAISO is unwilling to address those impacts, the ETC-holders will need to evaluate the future value of continued participating in such programs. CDWR-SWP, itself, may need to evaluate whether its facilities should continue to be participating loads.

- It is therefore imperative that the CAISO staff provide its responses to the proffered solutions as quickly as possible in order for the ETC-holders to evaluate any possible impacts well before the CAISO makes any Tariff filings.

CDWR-SWP recommends that such solutions/work-arounds are only temporary “fixes”. The Proposed Policy’s fatal flaw is directly related to having some loads aggregated to LAPs while others are nodal. It is essential that, once the temporary fixes are in place and MRTU goes-live, the CAISO must begin work to permanently correct the flaw. CDWR-SWP suggests that the MRTU should be revised by having all loads scheduled at the same level of granularity, i.e., nodally. (Note that CDWR-SWP does not take a position at this time on what the settlement granularity should be.)

Only when the CAISO corrects the flaw, can the Proposed Policy then function without discriminating and unfairly impacting ETC schedules.

CDWR-SWP is Still Open to More Ideas

At the September 25th meeting, representative of the City and County of San Francisco (CCSF) offered an interesting proposal as a “work-around” as a way to reduce the over-reliance on involuntary adjustments to ETC schedules by the Proposed Policy. Their proposal could positively address the Proposed Policy’s fatal flaw of not protecting ETC schedules from discriminatory curtailments.

CCSF’s proposal is likely to have the beneficial effect of reducing the frequency and duration of ETC schedule adjustments due to this Policy. As discussed earlier in this Comments, these effects are two of the three necessary elements that ETC-holders need in order to support the CAISO’s Proposed Policy. It should be noted, however, the third – and probably most crucial – element, “protection against all costs” cannot be addressed solely by the proposal. The “protection against all costs” attributable to an ETC schedule adjustment would still need to be included as part of a complete solution.

Attachment 1 to these Comments is a potential refinement to CCSF’s proposal and is submitted by CDWR-SWP in hopes of finding an acceptable solution for the CAISO and the ETC-holders.

ATTACHMENT 1 – CDWR-SWP Proposal Developed by Charles Mee

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For the Locational Marginal Price (LMP) design to work, all generation and load schedules should be submitted at nodal level so that CAISO will be able to accurately see activities on the grid. The Default Load Aggregation Point (D-LAP) was originally developed to address concerns about extreme LMP outcomes and was supposed to be used only in the settlement stage. However, for reasons that are unclear, CAISO expanded the D-LAP in the Integrated Forward Market Scheduling Run and Scheduling Coordinator's schedule submission. As a result, CAISO encountered problems it is now proposing to resolve through Uneconomic Adjustment and Parameter Tuning. The problem of the CAISO's Scheduling Run design is that it tries to consider D-LAP level schedules and nodal level schedules simultaneously. As a result, the tariff's intent of honoring ETC/TOR scheduling priorities will most likely be violated.

CDWR-SWP believes that the ideal way to solve this problem is to modify the scheduling requirements so that all schedules would be submitted at the nodal level. However, in light of urgency of the MRTU go live date, CDWR proposes the options below, which will not change the current scheduling requirement for Scheduling Coordinators. As soon as possible after MRTU go live, CAISO should implement a nodal scheduling requirement.

The following proposals focus only on CAISO software optimization after all the submitted schedules at nodal level or D-LAP level are validated. Since all generation schedules are submitted and settled at nodal level, the following proposals will not discuss generation schedule optimization.

Option 1: LAP—Nodal—LAP+Nodal

This option, which is essentially the proposal the City and County of San Francisco presented at the September 25, 2008 Market Surveillance Committee/Stakeholder meeting, would prevent discriminatory treatment against ETC Load (ETCL) and Participating Load (PL) by aggregating all loads to the D-LAP level. This would make all loads—including ETCL and PL—have an equal effectiveness factor for purposes of adjusting or curtailing schedules. For settlement, however, loads that are scheduled at the D-LAP (D-LAP-L) will be settled at D-LAP level, while ETCL and PL would have a choice to be settled at either the nodal level or the D-LAP level.

1. **Scheduling Run:** Aggregate the ETCL and PL, which are currently scheduled at nodal level, to the D-LAP level. When load curtailments are needed to relieve congestion, all the loads will then have the same effectiveness factor to resolve the congestion. In addition to the uniform effectiveness factor, ETCL will have a priority factor that reflects a higher scheduling priority; PL and D-LAP-L will have a priority factor to reflect a lower scheduling priority level. The product of the effectiveness factor times the priority factor will decide which load to be curtailed in the Scheduling

Run.

2. **Pricing Run:** The Pricing Run respects all the schedules that resulted from the Scheduling Run. In this run, for purposes of pricing (not settlement), all the loads will be treated as nodal level loads, and nodal level LMPs will be derived based on the Pricing Run.
3. **Settlement:** All D-LAP-Ls will be settled at D-LAP level LMP. The D-LAP level LMP fully addressed some Market Participants' concerns of possible extreme nodal level LMPs. ETCL and PL will have a choice to be settled at nodal level LMP or at D-LAP level LMP.

Under this option, ETCL scheduling priority will be honored. Also, the D-LAP level LMP will reflect the D-LAP level bid curve (a CAISO-constructed average of all D-LAP-L bid curves aggregated into a hypothetical bid curve).

In terms of software, Option 1 is not difficult to implement, and it preserves tariff mandates concerning load curtailment by eliminating the discriminatory treatment of ETCL and PL; however, it retains the basic problem with the CAISO's current approach of averaging nodes not only for pricing but also for scheduling. As a matter of system reliability, this averaging of load for scheduling purposes fails to provide an accurate Day Ahead solution for congestion and obscures effectiveness of loads in resolving congestion.

Option 2: Nodal—Nodal—LAP+Nodal

CAISO software that optimize load at D-LAP level created many problems. It is impractical for CAISO to lock Load Distribution Factors while curtail load at D-LAP level to resolve intra-zonal congestions. CAISO focused on 1) using Self-Provided Ancillary Service Bids and 2) on relaxing transmission constraints. As a result, CAISO revised the load curtailment order and violated the ETCL and PL scheduling priority. To solve the problem, the Load Distribution Factors must be relaxed, as the tariff provides.

This Option would prevent discriminatory treatment against ETCL and PL by distributing all scheduled loads (including D-LAP-L) to the nodal level. With accurate information about all load's effectiveness factors, the CAISO could make adjustments that would affect any load that may resolve a constraint. This approach offers an added benefit of providing more accurate Day Ahead nodal scheduling information to the CAISO. This approach supports the very important purpose of the LMP design: greater accuracy in scheduling and thus enhanced reliability. It also comports with FERC's recent order stressing scheduling accuracy and reliability with regard to CAISO's Integrated Balancing Authority Area proposal. For settlement, D-LAP-L would be settled at D-LAP level, while ETCL and PL would have a choice to be settled at either the nodal or the D-LAP level.

1. **Scheduling Run:** Distribute D-LAP-L to nodal level, same as ETCL and PL. In other words, at this stage, all loads would be optimized at nodal level and these nodal

level schedules would provide an accurate assessment for solving congestion in the Day Ahead. When load curtailments are needed, different loads will have different effectiveness factors in resolving transmission congestion according to their location. PL and DLAP-L will be treated in a nondiscriminatory fashion in curtailment of Day Ahead schedules. Consistent with the tariff, ETCL will have additional scheduling priority compared to the other loads on the scheduling run. Load Distribution Factors will not be locked, but rather could be adjusted based on optimization rules.

2. **Pricing Run:** The Pricing Run respects all the schedules that resulted from the Scheduling Run. In this run, for purposes of pricing (not settlement), all the loads will be treated as nodal level loads, and nodal level LMPs will be derived based on the Pricing Run.
3. **Settlement:** All D-LAP-Ls will be settled at D-LAP level LMP. The D-LAP level LMP fully addressed some Market Participants' concerns of possible extreme nodal level LMPs. ETCL and PL will have a choice to be settled at nodal level LMP or at D-LAP level LMP.

This is a simple and straightforward approach. It

- Provides the accuracy in scheduling that MRTU was intended to do
- Offers greater system reliability as a result of accurate and feasible Day Ahead scheduling
- Reduces potential real-time reliability problems.
- Honors ETC/TOR firmness as required in the tariff and in FERC orders and Congressional directives
- Avoids extra steps of aggregation that add complexity and are fundamentally at odds with MRTU objectives of accuracy and reliability
- Should be easy to implement.

By using accurate nodal scheduling, the CAISO might encounter a miss-match between its hypothetical D-LAP bid curve (which is an internal CAISO measure that is not, to CDWR-SWP's knowledge, actually used as a MRTU building block for operations or settlement) and the D-LAP LMP. In a nodal MRTU system, the exercise of attempting to match an averaged, hypothetical D-LAP bid curve with the D-LAP LMP as an average of nodal LMP outcomes is a CAISO internal exercise that should have minimum impact on actual Scheduling Coordinators whose actual bids have been submitted individually. Scheduling Coordinators for D-LAP Loads will not see the mismatch problems, so this is a technical problem rather than a tariff problem. To completely avoid the miss-match problem, the best solution might be to require all Scheduling Coordinators to schedule and settle loads nodally.