



Additional Notice of Clarification of MRTU Design Features

February 9, 2006

On January 13, 2006, the CAISO posted a Notice of Clarification summarizing a number of MRTU design features that had been examined as part of a thorough internal review and reconciliation of the MRTU policy and software implementation.

Today the CAISO is posting this additional clarification for seven items so that stakeholders will understand these design features contained within the MRTU tariff, which is being filed at FERC this week.

The CAISO will conduct a conference call with stakeholders on Friday, February 17, 2006 from 1:00 pm to 2:30 pm PST to provide further clarification of these design features.

The conference number is: **888-803-5681**

The conference code is: **5393931**

1. Price Verification for LAP Clearing

In response to LECG's February 2005 concern that the CAISO's original conceptual approach to clearing Demand bids at LAPs in the Day-Ahead Market (DAM), as reflected in the July 22, 2003 Filing, was problematic and could have adverse consequences, the CAISO revised its proposed approach to LAP Demand clearing in its May 13, 2005 Filing. Under the revised proposal, DAM LAP Demand Bids would be cleared based on LAP prices rather than nodally as initially proposed.

Under that the revised approach, the DAM LAP-level Demand curve for each LAP would be cleared against the aggregated LAP prices to produce a final LAP-level Demand Schedule that is consistent with the most accurate LDFs available for use in the Day-Ahead Market processes and, importantly, a Day-Ahead Schedule that is feasible. This approach is used in the NYISO markets and has been working effectively there.

The CAISO recognizes that this approach may have some inefficient and undesirable consequences under certain conditions because the LDFs used to distribute the submitted LAP Demand Bids and Self-Schedules to nodes are preserved in the clearing of Demand

against Supply for the LAP, in order to address the principal concern raised by LECG with respect to the original LAP-clearing proposal. These are expected to be rare circumstances, for a local transmission bottleneck in conjunction with insufficient local supply bids to shift scheduled LAP Demand from the IFM market-clearing process to subsequent markets (the RUC and the real-time market). This may lead to very high Day-Ahead LMPs at the locally constrained and supply Bid deficient areas of the LAP. This situation is unlikely to occur under the MRTU market design, because the MRTU design is based on a strong physical local Resource Adequacy program, as well as a strong obligation for RA resources to offer capacity to the CAISO, which should minimize the occurrence of local Bid insufficiency conditions.

Even if the MRTU design did not use LAPs, high LMPs in a load pocket could result when there is supply insufficiency in a constrained area of the grid, which is why all LMP markets have effective local power mitigation mechanisms. In the unlikely event that this situation arises and it precludes the CAISO from resolving a non-competitive transmission constraint using all effective Economic Bids, the CAISO will schedule Energy from Self-provided Ancillary Services that utilize capacity that is obligated to offer an Energy Bid (*i.e.*, RA and RMR capacity), or take other appropriate measures to address the constraint, which could include relaxing the local transmission constraint in cases where operationally admissible, or relaxing the fixed LDF constraint, consistent with operating practices.

Accordingly, the CAISO has proposed specific actions the CAISO would take in the event there is insufficient supply of Energy Bids such that in Pre-IFM Pass 2 (MPM-RRD) LAP load would otherwise have to be reduced to relieve a local transmission constraint. The proposed actions include the following in order:

Step 1: Schedule Energy from Self-provided Ancillary Service Bids from capacity that is under a contractual obligation to provide Energy using either a) submitted Energy Bids, or b) Default Energy Bids or RMR Proxy Bids, as appropriate, to the extent an energy Bid is not submitted; or

Step 2: In case the measure in the prior step is insufficient to avoid non-economic adjustment of Demand at the LAP level, evaluate the validity of the binding constraint and if it is determined that the constraint can be relaxed based on the operating practices, relax the constraint consistent with operating practices;

Step 3: In case the measures in the prior two steps are insufficient the CAISO may adjust Demand at individual PNodes or, in aggregate, a group of nodes to relieve the constraint to minimize the quantity of Demand that is non-economically adjusted.

2. Start-up and Minimum Load Costs

The filed Tariff language is as follows. Only option (1) incorporates a change to what was filed in the CAISO's July 2003 filing; option (2) has not been modified.

Resources eligible to submit three-part Bids may elect on a semi-annual basis either of two options for specifying their Start-Up (SU) and Minimum Load (ML) costs to be used in the CAISO Markets Processes.

(1) Cost-based. This option uses fuel-cost adjusted formulas for SU cost and ML cost based on the resource's actual performance parameters. The SU and ML cost values contained in the resource's Bids as utilized in the CAISO Markets Processes will be these formulaic values adjusted for fuel-cost variation on a daily basis. Resources will not be able to Bid alternative values for SU and ML cost.

(2) Bid-based. The resource may submit values of its choosing for SU and ML cost without regard to the resource's performance parameters or underlying costs. The SU and ML cost values contained in the resource's Bids as utilized in the CAISO Markets Processes will be these pre-specified values and will be fixed for six months. Resources will not be able to Bid alternative values for SU and ML cost.

The CAISO's July 2003 filing stated that resources electing option (1) would be able to submit in their Bids to the CAISO markets any value for SU and ML cost between zero and their cost-based values. This flexibility will not be available in MRTU Release 1; the resource will use the formulaic cost-adjusted values for SU and ML in all CAISO market processes.

3. Treatment of Transmission Outages in the Monthly CRR Allocation

The following is a correction to what was stated in item #15 of the January 13 Notice. This correction does not reflect a change in design by the CAISO; rather it is the result of clarification from the CRR system vendor regarding the functionality of the CRR software.

In the event that transmission outages and derates modeled for the monthly CRR Allocation and CRR Auction render previously issued Seasonal CRRs infeasible, the CAISO will increase the transfer capacity on the overloaded facilities just enough to render all Seasonal CRRs issued for the month feasible without creating any additional capacity beyond what is needed for the feasibility of the Seasonal CRRs. [Section 36.4.2]

4. Reporting Requirement for Planned Outages

To avoid revenue inadequacy it is important that planned outages are considered prior to the monthly allocation/auction process. As the allocation/auction process occurs approximately two weeks before the month begins it is important that planned transmission outages be reported to the CAISO a minimum of 45 days before they are scheduled to occur. The ISO has mentioned this aspect of the monthly auction implementation in several different forums, and the filed tariff will reflect this requirement for transmission outages.

The notice period for generation outages in the filed tariff remains at 72 hours; however, the CAISO is currently reconsidering this due to the effect that large generator outages have on interface flow limits.

5. Treatment of Pumps

In MRTU Release 1, the CAISO will model Participating Loads that are pumps and pump storage facilities as generators with negative generation capabilities, and will therefore schedule and settle them at nodal prices. Pump storage facilities can perform either as generators by supplying Energy or as Loads by consuming power from the grid, and therefore they are modeled in the CAISO markets as generators whose output can go negative when they are functioning as pumps. For Release 1 other Participating Loads, including pumps, which are always functioning as Loads, will be modeled in the same manner as pump load facilities.

As previously discussed, Participating Loads that use the Pump model to participate will be scheduled and settled at the individual nodal level rather than the Default LAP level. Pumped resources may elect to submit economic bids allowing the CAISO optimization process to determine their pumping and generation schedules, in which case they are eligible for Bid Cost Recovery (BCR). Similarly, Participating Loads eligible to submit three part bids are eligible for BCR. In BCR computations, the CAISO will consider the pumping energy with a negative sign, so that both the pumping cost and the pumping revenues are negative. For example, the LMP at the pump (say \$40/MWh) exceeds the price the pump is willing to pay (say \$30 MWh), and the pump is kept ON due to inter-temporal constraints, (say at \$20MWh), it will be eligible for an uplift based on its cost minus its revenues in that hour:

$$(\$30)*(-20) - (\$40)*(-20) = +\$200.$$

6. Conditional Self-provision of A/S from Capacity under Contractual Obligation:

Under the MRTU design, capacity designated by the SCs for A/S self-provision is not optimized in the IFM engine, but rather protected. This may lead to local Energy bid insufficiency in the IFM if RMR or local RA units self-provide A/S to such an extent that capacity is no longer adequate to resolve local constraints in pre-IFM runs.

Under the Release 1 implementation, although A/S self provision is subject to disqualification if it violates the A/S regional constraints, no provisions are in place to disqualify A/S if local constraints require scheduling of their energy in the day-ahead market to avoid load curtailment in pre-IFM Pass 2. If the local constraints cannot be met then load will be curtailed in the IFM and shifted to RUC and real-time, but the self-provided A/S will be protected. The ISO believes that the relative priority between price taker load and A/S self-provision needs to be reversed in the IFM, to the extent that RMR and RA capacity are indispensable to prevent load curtailment. In other words, any A/S self-provision from capacity under contractual obligation must be conditional on the capacity not being needed for energy in the pre-IFM Pass 2.

Since the Release 1 software does not have such capability, a workaround has been adopted as follows:

If the local constraints result is a solution in pre-IFM Pass 2 that involves load shedding (where the CAISO Load represents CAISO's best estimate of the load as reflected in its Load Forecast), then self-provided A/S from RMR and local RA resources will be converted into A/S bids at the bid floor and the Pre-IFM re-run. This bid-in A/S is then optimized along with other bid-in A/S; as a result, some will be chosen for energy, some for A/S, and conceivably, some not picked up at all. The initially self-provided A/S capacity that is not picked up as A/S in this process would be disqualified. The qualified and disqualified values, as determined in this process, will be communicated to the respective SC.

7. Tariff Provisions Related to Resource Adequacy for CPUC Non-jurisdictional Entities

The CAISO in consultation with several entities representing non-CPUC jurisdictional electricity providers has developed Resource Adequacy provisions to address the specific needs of both CPUC and non-CPUC jurisdictional Resource Adequacy Programs adopted by Local Regulatory Authorities. These provisions have been incorporated into the MRTU tariff.