**\* All incremental changes are reflected in yellow highlight \***

**29.39 EIM Market Power Mitigation.**

(a) **EIM Market Power Mitigation Procedure.** The CAISO shall apply the Real-Time Local Market Power Mitigation procedure in Section 39.7 to the Energy Imbalance Market, including EIM Transfer constraints into an EIM Entity Balancing Authority Area on an EIM Internal Intertie, except as provided in Section 29.39.

(b) **Competitive Path Assessment.** The CAISO shall conduct the competitive path assessment to determine for each EIM Entity Balancing Authority Area whether a path is competitive or non-competitive, consistent with Section 39.7.2, except that –

(1) EIM Participating Resource Scheduling Coordinators shall submit information required by the CAISO to perform the competitive path assessment;

(2) the competitive path assessment shall not exclude EIM Participating Resources from the test used to determine the competitiveness of Transmission Constraints on the basis that they may be net buyers of Energy in the Real-Time Market; and

(3) the CAISO may establish different Reference Buses for each Balancing Authority Area, which need not be within the Balancing Authority Area, for calculating the LMP decomposition which is used to trigger Bid mitigation, based on the topology of each Balancing Authority Area and consideration of the bus at which the Marginal Cost of Congestion component of Locational Marginal Prices is least influenced by market power.

(c) **Locational Marginal Price Decomposition.** The CAISO shall perform the Locational Marginal Price decomposition for each EIM Entity Balancing Authority Area using the results of the competitive path assessment and the Congestion pricing results of the pre-market run to determine which resources may have local market power due to Congestion on a non-competitive Transmission Constraint, consistent with Section 34.2.3 and 39.7.

(d) **Default Energy Bids.** The CAISO shall use the methods and standards set forth in Section 39.7 to determine Default Energy Bids for EIM Participating Resources, except that the CAISO will use the Market Services Charge and System Operations Charge reflected in the EIM Administrative Charge.

(e) **Incremental Net EIM Transfer Limit.**

(1) **Election.** An EIM Entity Scheduling Coordinator may elect for the CAISO to apply an upper limit to the net EIM Transfer consistent with the timelines that apply to Master File changes pursuant to Section 30.7.3.2.

(2) **Application.** In the applicable RTM process, incremental net EIM Transfers from an EIM Entity Balancing Authority Area that has made the election in Section 29.39(e)(1) will be limited when the MPM process triggers mitigation and EIM Transfers in the MPM process are constrained in the import direction to that EIM Entity Balancing Authority Area, or a group of EIM Entity Balancing Authority Areas that includes that EIM Entity Balancing Authority Area.

(3) **Limit.** The incremental net EIM Transfer upper limit will be: (a) the amount by which the sum of Flexible Ramping Up awards in the EIM Entity Balancing Authority Area prior to the applicable RTM to which the MPM process applies exceeds the EIM Entity Balancing Authority Area’s corresponding adjusted Flexible Ramping Up requirement, where the Flexible Ramping Up requirement is adjusted for EIM diversity benefit and the portion of the cleared Flexible Ramping Up Demand curve, plus (b) the amount that is the greater of:

(A) the net EIM Transfer in the MPM process described in Section 34.1.5 prior to the RTM process for the interval to which the MPM process applies; or

(B) the net EIM Transfer represented by the EIM Base Schedules at each EIM Internal Intertie for the interval to which the MPM process applies.

(4) **Publication.** The CAISO will publish a list of EIM Balancing Authority Areas that have elected for the CAISO to apply an upper limit to the net EIM Transfer in accordance with the procedures and timelines for such publication established in the Business Practice Manual for the Energy Imbalance Market.

**\* \* \* \* \* \***

**31.2.3 Bid Mitigation**

If the non-competitive Congestion component of an LMP calculated in an MPM process is greater than zero (0), then any resource at that Location that is dispatched in that MPM process is subject to Local Market Power Mitigation. Bids on behalf of any such resource, to the extent that they exceed the Competitive LMP plus the Competitive LMP Parameter at the resource’s Location for the DAM or RTM process interval for which the MPM process applies, will be mitigated to the higher of the resource’s Default Energy Bid, as specified in Section 39, or the Competitive LMP plus the Competitive LMP Parameter at the resource’s Location for the DAM and RTM process interval for which the MPM process applies. To the extent a Multi-Stage Generating Resource is dispatched in the MPM process and the non-competitive Congestion component of the LMP calculated at the Multi-Stage Generating Resource’s Location is greater than zero, for purposes of mitigation, all the MSG Configurations will be mitigated similarly and the CAISO will evaluate all submitted Energy Bids for all MSG Configurations based on the relevant Default Energy Bids for the applicable MSG Configuration. The CAISO will calculate the Default Energy Bids for Multi-Stage Generating Resources by submitted MSG Configuration. Any market Bids equal to or less than the Competitive LMP plus the Competitive LMP Parameter will be retained in the DAM and RTM process.

**\* \* \* \* \* \***

**34.1.5 Mitigating Bids in the RTM**

**34.1.5.1 Generally**

After the Market Close of the RTM, after the CAISO has validated the Bids pursuant to Section 30.7 and Section 34.1.4, and prior to conducting any other RTM processes, the CAISO conducts a MPM process. The results are used in the RTM optimization processes. Bids on behalf of Demand Response Resources, Participating Load, and Non-Generator Resources are considered in the MPM process but are not subject to Bid mitigation. Bids from resources comprised of multiple technologies that include Non-Generator Resources will remain subject to all applicable market power mitigation under the CAISO Tariff, including Local Market Power Mitigation.

**34.1.5.2 Fifteen Minute MPM**

The CAISO conducts the MPM process as the first pass of each fifteen-minute interval in the RTUC horizon starting with the unmitigated Bid set as validated pursuant to Section 30.7 and Section 34.1.4. The MPM process produces results for each fifteen-minute interval of the RTUC horizon and thus may produce mitigated Bids for any given resource for the any fifteen-minute interval in the RTUC run horizon that applies to any CAISO Market Process that is based on a specific RTUC run. The determination as to whether a Bid is mitigated is made based on the non-competitive Congestion component of each LMP for each fifteen-minute interval of the RTUC run horizon, using the methodology set forth in Section 31.2.3 above. If a Bid is mitigated in the MPM pass for a fifteen-minute interval in the RTUC horizon, the mitigated Bid will be utilized in the corresponding HASP and FMM processes for the fifteen-minute interval. If a Bid is not mitigated in a fifteen-minute MPM pass, the CAISO will still mitigate that Bid in subsequent fifteen-minute intervals of the RTUC horizon if the MPM pass for the subsequent intervals determine that mitigation is needed.

**34.1.5.3 Real-Time Dispatch MPM**

The RTD MPM process produces results for each five (5) minute interval of a Trading Hour. The determination as to whether a Bid is mitigated is made based on the non-competitive Congestion component of each LMP for each five (5) minute interval, using the methodology set forth in Section 31.2.3 above. The RTD MPM process is performed for a configurable number of RTD advisory intervals after the binding RTD interval, and the mitigated Bids are used in the corresponding RTD intervals of the following RTD.

**\* \* \* \* \* \***

**34.1.5.5 Competitive LMP Parameter**

When a Bid is mitigated, the CAISO will add a cost, not to exceed $0.01/MWh, to the Competitive LMP used in the MPM process prior to the DAM or RTM process. The CAISO will set the Competitive LMP Parameter as low as possible while creating a reasonable price separation between the area where mitigation applies and other areas where mitigation does not apply. The CAISO will publish the value of the Competitive LMP Parameter in the Business Practice Manual.

**\* \* \* \* \* \***

**39.7.1.7 Hydro Default Energy Bid**

Scheduling Coordinators may request a Hydro Default Energy Bid for a hydroelectric resource with storage capability located in the CAISO Balancing Authority Area or any EIM Entity Balancing Authority Area.

**39.7.1.7.1 Computation**

For each Trading Day, the CAISO will calculate the Hydro Default Energy Bid as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

**39.7.1.7.1.1 Gas Floor**

The CAISO will calculate the gas floor as the most recent average heat rate for a typical gas turbine generator obtained from the Energy Information Administration, multiplied by the gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

**39.7.1.7.1.2 Short-Term Component**

The CAISO will calculate the short-term component as 1.40 multiplied by the maximum of:

(A) the day-ahead peak price at the applicable electric pricing hub;

(B) the on-peak balance of the month on peak futures price for the current month at the applicable electric pricing hub; and

(C) the on-peak monthly index on peak futures price at the applicable electric pricing hub for one (1) month after the current month.

**39.7.1.7.1.3 Long-Term/Geographic Component**

A Scheduling Coordinator may request that the long-term/geographic component be calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 39.7.1.7.2.1. The CAISO will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(A) the day-ahead on-peak price at the applicable electric pricing hub(s):

(B) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(C) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

**39.7.1.7.2 Requirements**

As part of its request for a Hydro Default Energy Bid, the Scheduling Coordinator must submit to the CAISO:

**39.7.1.7.2.1 Transmission Rights**

(a) Annually, and for each electric pricing hub requested that is not the default electric pricing hub, the Scheduling Coordinator must (1) demonstrate that it holds annual firm transmission rights to enable delivery from the hydroelectric resource’s default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of purchasing monthly firm transmission rights for the annual period to the requested electric pricing hub(s) or similarly priced location. Scheduling Coordinators may demonstrate transmission rights to multiple locations and, based on the CAISO’s evaluation of such information, the CAISO may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term/geographic component of the Hydro Default Energy Bid for the affected resources. The Scheduling Coordinator will attest through its submission that it reasonably expects it will use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource. If the CAISO includes multiple electric pricing hubs in the long-term/geographic component, the Hydro Default Energy Bid calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Trading Day. On Trading Days for which there are no relevant published electric price indices at an electric pricing hub, the CAISO will use the most recently published index for the applicable electric pricing hub.

(b) For resources that Scheduling Coordinators demonstrate a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro resource’s capacity, the CAISO will include the requested electric pricing hub up to the quantity demonstrated transmission rights, and apply a proportional weighting of the resource’s transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term/geographic component of the Hydro Default Energy Bid.

(c) In the absence of supporting transmission rights information when calculating the Hydro Default Energy Bid, the CAISO will revert to the default bilateral electric pricing hub specified in Section 39.7.1.7.3.

(d) If during the term of the annual period the Scheduling Coordinator no longer has the firm transmission rights previously demonstrated, the Scheduling Coordinator must inform the CAISO within 5 Business Days of no longer holding such firm transmission rights.

(e) The CAISO may audit the Scheduling Coordinator and request additional information in support of the Scheduling Coordinator’s assertions.

(f) If the CAISO determines the Scheduling Coordinator has submitted inaccurate information, the CAISO may revert the resource to the default electric pricing hubs as specified in Section 39.7.1.7.3.

**39.7.1.7.2.2 Maximum Storage Horizon.**

The maximum hydroelectric resource storage horizon submitted by the Scheduling Coordinator must –

(a) Reflect the typical storage duration of a hydroelectric resource’s reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Scheduling Coordinator shall compute the reservoir’s cycling time based on multiple years of reservoir elevation data.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the company stating that the value submitted to the CAISO as the maximum storage horizon is consistent with the requirements specified in Section 39.7.1.7.2 (a); or (2) corroborating information submitted to the CAISO, which may include several years of historic reservoir levels for the specific hydroelectric resource and regulatory filings related to the operations of the hydroelectric resource.

**39.7.1.7.3 Default Electric Pricing Hubs**

The default electric pricing hubs will be as specified in the Business Practice Manuals, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

**\* \* \* \* \* \***

**Appendix A**

**Master Definitions Supplement**

**\* \* \* \* \* \***

**-Competitive LMP Parameter**

A cost added to the Competitive LMP used in the MPM process in accordance with Section 34.1.5.5.

**\* \* \* \* \* \***

**-Hydro Default Energy Bid**

A Default Energy Bid for an eligible hydroelectric resource determined in accordance with Section 39.7.1.7.

**\* \* \* \* \* \***