## **29.11 Settlements and Billing for EIM Market Participants.**

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

(t) **Energy Assistance Transfer Revenue.**

The revenue from Energy assistance transfers in Section 29.34(n)(3) will be calculated, allocated and distributed as follows—

(1) **Calculation.** The Energy assistance transfer Congestion revenue from each participating Balancing Authority Area in the EIM Area that fails the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) will be the sum of the product of FMM Instructed Imbalance Energy, RTD Instructed Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy, and the Marginal Cost of Congestion attributable to the incremental cost applied to the quantity of EIM Transfers determined in Section 29.34(n)(3)(B)(vi), including Virtual Bid FMM settlement in Section 11.3.

(2) **Allocation.** The Energy assistance transfer Congestion revenue collected from participating Balancing Authority Areas in the EIM Area that fail the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) will be allocated to all other Balancing Authority Areas in the EIM Area, pro rata to the net exports from each Balancing Authority Area in the EIM Area.

(3) **Distribution.** The Energy assistance transfer Congestion revenue will be distributed to the EIM Entity Scheduling Coordinators for the EIM Entity Balancing Authority Areas through the Real-Time Congestion Offset in Section 11.5.4.1.1 for sub-allocation according to its OATT, and to the CAISO for sub-allocation within the Real-Time Congestion Offset to the total net positive FMM Instructed Imbalance Energy and RTD Instructed Imbalance Energy from Supply in the CAISO Balancing Authority Area.

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

## **29.34 EIM Operations**

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

(l) **EIM Resource Sufficiency Evaluation – Capacity Test.**

(1) **Requirement.** The Supply, as applicable and as detailed in Business Practice Manuals, included in—

(A) the EIM Resource Plan must meet the Demand Forecast for each EIM Entity Balancing Authority Area, and

(B) the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules must meet the Demand Forecast for the CAISO Balancing Authority Area.

(2) **Supply and Demand Forecast.** Conditions and actions in the Real-Time Market will affect what Supply will be counted and what Demand Forecast will be referenced in the capacity test performed in accordance with this Section 29.34(l) and, in some cases as noted below, both this capacity test and the flexibility test performed in accordance with Section 29.34(m).

(A) For purposes of this Section 29.34(l) and also for purposes of Section 29.34(m) with respect to Sections 29.34(l)(2)(A)(iii) and 29.34(l)(2)(A)(iv), Supply counted in the capacity test will also include—

(i) a Short Start Unit with a Bid in the RTM through the upcoming hour that is offline in the last fifteen minute interval before the hour under evaluation provided the Short Start Unit has remaining Start-Ups in the day including the hour under evaluation;

(ii) a Multi-Stage Generating Resource configuration that can reach another configuration within the timeframe for it to be counted as available in accordance with Section 29.34(l)(1)(A)(i), provided the resource has remaining in-state transitions to that MSG Configuration in the day including the hour under evaluation;

(iii) a Multi-Stage Generating Resource transitioning between MSG Configurations or a Short Start Unit moving through a Forbidden Operating Region in the hour under evaluation, in both the capacity test and the flexibility test performed in accordance with Section 29.34(m); or

(iv) a Non-Generator Resource or storage device maximum and minimum output in the hour under evaluation based upon its State of Charge as monitored by the CAISO in the last fifteen minute interval before the hour under evaluation, and its Bids to charge or discharge Energy in the hour under evaluation, in both the capacity test and the flexibility test performed in accordance with Section 29.34(m).

(B) For purposes of this Section 29.34(l) and also for purposes of Section 29.34(m) with respect to Section 29.34(l)(2)(B)(iii), Supply counted in the capacity test will not include—

(i) a Short Start Unit with a Bid in the RTM which received a Start-Up Instruction before the hour under evaluation and has failed to initiate Start-Up;

(ii) a Short Start Unit that is on Outage during the hour under evaluation or has returned from an Outage but is unable to Start-Up within the hour under evaluation; or

(iii) an Import Bid or Export Bid for delivery to or export from the CAISO Balancing Authority Area without a transmission profile in a submitted E-Tag that supports its Interchange Schedule by T-40, in both the capacity test and the flexibility test for the CAISO Balancing Authority Area performed in accordance with Section 29.34(m).

(C) Supply from a resource counted in accordance with Section 29.34(l)(2)(A)(i) may be adjusted by the CAISO in accordance with the timelines and procedures provided in the Business Practice Manual for the Energy Imbalance Market to address significant overcounting of Supply available to the Real-Time Market, provided that the overcounting has been identified, supported with analysis and documented by the CAISO.

(D) Demand response under a demand response program administered in an EIM Entity Balancing Authority Area that does not otherwise qualify as an EIM Resource, *i.e.*, count as Supply, may be accounted for through a corresponding EIM Entity adjustment to their Demand Forecast, which will then be referenced in the capacity test performed in accordance with this Section 29.34(l), the flexibility test performed in accordance with Section 29.34(m), and the balancing test performed in accordance with Section 29.34(k), provided the EIM Entity submits an attestation to the CAISO in accordance with the procedures and timelines in the Business Practice Manual for the Energy Imbalance Market that certifies adjustments made to its Demand Forecast will correspond to expected increases or reductions in demand provided by the demand response.

(3) **Insufficient Supply.** An EIM Resource Plan or the CAISO equivalent, as applicable and as detailed in Business Practice Manuals, shall be deemed to have insufficient Supply to pass the capacity test if—

(A) the sum of EIM Base Schedules of Supply and the sum of the incremental or decremental offers in the Energy Bid range from EIM Participating Resources above or below their EIM Base Schedules, including Interchange with other Balancing Authority Areas, is not sufficient to meet the total Demand Forecast that the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority, and

(B) the sum of Supply and the sum of the incremental or decremental offers in the Energy Bid range above or below the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules is not sufficient to meet the total Demand Forecast for the CAISO Balancing Authority Area, provided lower priority export schedules that may be curtailed in accordance with Section 34.12.4 are not included in the demand obligation for the CAISO Balancing Authority Area.

(m) **EIM Resource** **Sufficiency Evaluation – Flexibility Test.**

(1) **Review.**

(A) **EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan for an EIM Entity Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv), 29.34(l)(2)(B)(iv) and 29.34(l)(2)(D), to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (5).

(B) **CAISO Balancing Authority Area.** The CAISO will review the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules in the CAISO Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv) and 29.34(l)(2)(B)(iv), to meet the CAISO Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (5), provided lower priority export schedules that may be curtailed in accordance with Section 34.12.4 are not included in the upward Ramping requirement and are included in the downward Ramping requirement for the CAISO Balancing Authority Area.

(C) **Power Balance Constraint and Load Conformance Considerations.** The CAISO, pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market, will consider the quantity of any power balance constraint relaxation in the Real-Time Market solution, while excluding from consideration any constraint relaxation due to Load conformance in the Real-Time Market solution, in the determination of whether sufficient Bids for Ramping capability are available to meet the upward and downward Ramping requirements in accordance with this Section 29.34(m)(1).

(2) **Determination** **of EIM Diversity Benefit.** The CAISO will calculate separately the upward and downward EIM diversity benefit as the difference between the sum of the upward and downward Uncertainty Requirements for all Balancing Authority Areas in the EIM Area, and the Uncertainty Requirement for the EIM Area.

(3) **Effects of EIM Diversity Benefit.** For each Balancing Authority Area in the EIM Area, the CAISO will reduce the upward and downward Uncertainty Requirements by the Balancing Authority Area’s pro rata share of the upward and downward EIM diversity benefit in the EIM Area as may be limited by -

(A) the available net import EIM Transfer capability into that Balancing Authority Area in the case of an upward Uncertainty Requirement; and

(B) the available net export EIM Transfer capability from that Balancing Authority Area in the case of a downward Uncertainty Requirement.

(4) **Determination of Flexible Ramping Sufficiency Credit.** The CAISO will calculate for each Balancing Authority Area in the EIM Area, the upward flexible Ramping sufficiency credit as the outgoing EIM Transfer from that area and the downward flexible Ramping sufficiency credit as the incoming EIM transfer into that area.

(5) **Effect of Flexible Ramping Sufficiency Credit.** The CAISO will reduce the upward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its upward flexible Ramping sufficiency credit, and will reduce the downward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its downward flexible Ramping sufficiency credit.

(n) **Effect of EIM Resource Capacity or Flexibility Insufficiency.**

(1) **Insufficient Capacity.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules as provided in Section 29.34(f)(1)(c), the EIM Resource Plan or the CAISO equivalent has insufficient Supply as determined according to Section 29.34(l) -

(A) the CAISO will not include the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area in the Uncertainty Requirement of the EIM Area;

(B) the CAISO will hold the EIM Transfer limit into or from the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area, as specified in Section 29.34(n)(2), at the less restrictive of the value for the last 15-minute interval with sufficient Supply or the hourly Real-Time EIM Base Schedule corresponding to the 15-minute interval with insufficient Supply.

(2) **Insufficient** **Flexible Ramping Capacity.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules or the CAISO equivalent as provided in Section 29.34(f)(1)(c), the CAISO determines -

(A) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient upward Ramping capacity according to Section 29.34(m), the CAISO will take the actions described in Section 29.34(n)(1)(A) and (B) in the upward and into the EIM Entity BAA or CAISO BAA direction; and

(B) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient downward Ramping capacity according to Section 29.34(m), the CAISO will take the actions described in Section 29.34(n)(1)(A) and (B) in the downward and from the EIM Entity BAA or CAISO BAA direction.

(3) **Energy Assistance Transfers.**

(A) **In General.** An EIM Entity may obtain Energy assistance transfers into its Balancing Authority Area by submitting to the Master File a designation that it will accept incremental EIM Transfer imports at a specified additional cost following the failure of the capacity test or the flexibility test in accordance with the timelines and procedures included in the Business Practice Manual for the Energy Imbalance Market. The CAISO Balancing Authority Area will accept Energy assistance transfers as provided in this section unless the CAISO issues a Market Notice at least 5 Business Days prior to withdrawing or resuming its participation.

(B) **Energy Assistance Transfers.** If an EIM Entity elects to receive Energy assistance transfers and its Balancing Authority Area fails the upward capacity test in Section 29.34(l) or the upward flexibility test in Section 29.34(m) then—

(i) the EIM Entity Balancing Authority Area will not be subject to the capacity test or flexibility test failure consequences in Section 29.34(n);

(ii) the CAISO’s Security Constrained Economic Dispatch will exhaust all EIM Available Balancing Capacity within the Balancing Authority Area prior to initiating Energy assistance transfers into that Balancing Authority Area;

(iii) the CAISO’s Security Constrained Economic Dispatch in the Fifteen Minute Market and Real-Time Dispatch will use the price cap in effect for the binding interval as determined in accordance with Section 30.7.12 as the EIM Transfer schedule cost at EIM Internal Interties with the Balancing Authority Area, instead of the EIM Transfer schedule cost that otherwise would apply in accordance with Section 29.17(g)(1);

(iv) the CAISO’s Security Constrained Economic Dispatch in the Fifteen Minute Market and Real-Time Dispatch will apply a power balance constraint relaxation parameter equal to twice the EIM Transfer schedule cost determined by Section 29.34(n)(3)(iii);

(v) the EIM Transfer schedule cost determined by Section 29.34(n)(3)(iii) will be reflected in the Locational Marginal Price at Pricing Nodes and Aggregated Pricing Nodes within the Balancing Authority Area; and

(vi) the quantity of Energy assistance transfers provided will be optimally determined based on the net EIM Transfers into the Balancing Authority Area above the EIM Base Schedule net EIM Transfers with the Balancing Authority Area.

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

**34.12 CAISO Market Adjustment To Non-Priced Quantities In The RTM**

All Self-Schedules are respected by the SCED and SCUC to the maximum extent possible and are protected from curtailment in the Congestion Management process to the extent that there are effective Economic Bids that can relieve Congestion. If all Effective Economic Bids for the RTM are exhausted, all Self-Schedules between the Minimum Load and the lowest Energy level of the first Energy Bid point will be subject to uneconomic adjustments based on assigned scheduling priorities. This functionality of the optimization software is implemented through the setting of scheduling parameters as described in Section 27.4.3 and specified in Section 27.4.3.1 and the BPMs. Through this process, imports and exports may be reduced to zero, Demand may be reduced to zero, and Generation may be reduced to a lower operating limit (or Regulation Limit) (or to a lower Regulation Limit plus any qualified Regulation Down Award or Self-Provided Ancillary Services, if applicable). Any Self-Schedules below the Minimum Load level are treated as fixed Self-Schedules and are not subject to uneconomic adjustments for Congestion Management but may be subject to decommitment via an Exceptional Dispatch if necessary as a last resort to relieve Congestion that could not otherwise be managed.

**34.12.1 Increasing Supply**

The scheduling priorities as defined in the RTM optimization to meet the need for increasing Supply as reflected from higher to lower priority are as follows:

|  |  |  |
| --- | --- | --- |
| **Scheduling Run Priority**  | **Scheduling Parameters Under Soft Energy Bid Cap (27.4.3.2)**  | **Scheduling Parameters Under Hard Energy Bid Cap (27.4.3.3)** |
| CAISO Forecast of CAISO Demand; the export Self-Schedule of a Priority Wheeling Through; exports explicitly identified in a Resource Adequacy Plan backed by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; or Self-Schedules for exports at Scheduling Points backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity  | $1450 | $2900 |
| RUC Schedules that are Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity, or the RUC Schedules that are the export Self-Schedules of non-Priority Wheeling Throughs  | $1250 | $2500 |
| Real-Time Market Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity or non-RUC capacity, or the Real-Time Market Self-Schedules that are the export Self-Schedules of a non-Priority Wheeling Through  | $1150 | $2300 |
| Contingency Only Operating Reserve if activated by Operator to provide Energy (as indicated by the Contingency Flag and the Contingency condition) | $1000 | $2000 |

**34.12.2 Decreasing Supply**

The scheduling priorities as defined in the RTM optimization to meet the need for decreasing Supply as reflected from higher to lower priority are as follows:

|  |  |  |
| --- | --- | --- |
| **Scheduling Run Priority** | **Scheduling Parameters Under Soft Energy Bid Cap (27.4.3.2)** | **Scheduling Parameters Under Hard Energy Bid Cap (27.4.3.3)** |
| Non-Participating Load increase  | Not Applicable | Not Applicable |
| Reliability Must Run (RMR) Schedule (Day-Ahead manual pre-dispatch or Manual RMR Dispatches or Dispatches that are flagged as RMR Dispatches following the MPM, for Legacy RMR Units and Exceptional Dispatch for RMR Resources process)  | -$6000 | -$12000 |
| Transmission Ownership Right (TOR) Self-Schedule  | -$5900 | -$11800 |
| Existing Rights (ETC) Self-Schedule | -$5100 to -$5900 | -$10200 to -$11800 |
| Regulatory Must-Run and Regulatory Must-Take (RMT) Self-Schedule; | -$1400 | -$2800 |
| Participating Load increase  | Not Applicable | Not Applicable |
| Day-Ahead Supply Schedule  | -$1200 | -$2400 |
| Self-Schedule Hourly Block  | -$1100 | -$2200 |
| Import Self-Schedule of a non-Priority Wheeling Through | $0 | $0 |

These dispatch priorities as defined in the RTM optimization may be superseded by operator actions and procedures as necessary to ensure reliable operations.

**34.12.3**

In the event an Intertie is constrained in the import direction by a scheduling limit or Path 26 is constrained in the north-south direction, when HASP cannot meet CAISO Forecast of CAISO Demand or fully accommodate a Priority Wheeling Through transaction, the CAISO will perform a post-HASP process to pro rata allocate available transmission capacity between Load and CAISO Balancing Authority Area and Priority Wheel Through transactions, as described in the Business Practice Manual. The pro rata share of Load within the CAISO Balancing Authority Area will be based on the lower of each applicable Resource Adequacy Resource’s Real-Time Energy Bid quantity or its shown Resource Adequacy Capacity. The Priority Wheeling Through pro rata share for each Self-Schedule will be based on the lowest of (1) 110 percent of the submitted Day-Ahead Market Self-Schedule of the Priority Wheeling Through transaction, (2) the submitted Real-Time Market Self-Schedule of the Priority Wheeling Through transaction, or (3) the Priority Wheeling Through quantity requested 45-days in advance of the month. The available transmission capacity the CAISO awards to Priority Wheeling Through transactions in the post-HASP process cannot exceed the Priority Wheeling Through quantity the CAISO calculates in this pro rata allocation. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.

**34.12.4**

At its sole discretion, the CAISO may, after HASP, apply the market scheduling run priorities in Section 34.12.1 through manual operator intervention to curtail lower priority HASP hourly block export schedules when the CAISO Balancing Authority Area is in an energy emergency alert level 3 (EEA 3) and requires curtailment to prevent the need to arm Load, or reduce the amount of Load that is armed, and meet its operating reserve obligations. For purposes of this section, the CAISO would curtail lower priority exports in the following order:

(a) Real-Time economic hourly block export schedules that cleared HASP,

(b) Real-Time Self-Schedule hourly block export schedules not backed by Generation from non-Resource Adequacy Capacity and cleared HASP, then

(c) Day-Ahead hourly block export schedules not backed by Generation from non-Resource Adequacy Capacity that also cleared HASP and are protected Self-Schedules.

The Scheduling Coordinator for any export schedule other than an export backed by Generation from non-Resource Adequacy Capacity must submit an E-Tag with the designation of firm provisional energy (G-FP).