29 Temporary Changes to Payments for Regulation

29.1 Application

Notwithstanding any other provision of the ISO Tariff, the amendments to the ISO Tariff set forth in Section 29 shall continue in effect until such time as:

(a) the ISO has filed with FERC new, long-term changes to the ISO Tariff in regard to the ISO's Regulation auction to provide incentives to Market Participants to bid into the auction; and

(b) FERC has accepted for filing and made effective such new, long-term changes to the ISO Tariff in regard to the ISO's Regulation auction.

29.2 ISO Tariff Amendments

29.2.1 Amendments to the Body of the ISO Tariff

2.5.27.1 Regulation.

Quantities. The following quantity definitions shall be used for each Scheduling Coordinator in the settlement process:

$AGCQDA_{xt}$ = the Scheduling Coordinator's total quantity of Regulation capacity in Zone X sold through the ISO auction, and scheduled Day-Ahead j for Settlement Period t.

$EnQAGC_{ixt}$ = the net Energy increase or decrease (deviation from Scheduled output) from a Generating Unit i providing Regulation in Zone X in Settlement Period t, determined in accordance with the ISO Protocols.

Prices. The prices in the Settlement process for Regulation shall be those determined in Section 2.5.14.

Penalty: penalty described in Section 2.5.26.

$PAGCDA_{xt}$ = the market clearing price, PAGC, in Zone X for Regulation capacity in the Day-Ahead market for Settlement Period t.

Payments. Scheduling Coordinators for Generating Units providing Regulation capacity through the ISO auction shall receive the following payments for Regulation:

$AGCPay_{xt} = AGCQDA_{xt} * PAGCDA_{xt} - Penalty$

Scheduling Coordinators for Generating Units shall receive the following payment for Energy output from Regulation:

$$\sum_i [(EnQAGC_{ixt} * HourlyExPostPriceinZoneX) + REPA_{ixt}]$$

$REPA_{ixt}$ = the Regulation Energy Ppayment Aadjustment for Generating Unit i in Zone X for Settlement Period t calculated as follows:

$[(R_{UPixt} * C_{UP}) + (R_{DNixt} * C_{DN})] * \max(\$20/MWh, P_{xt})$

Where

R_{UPixt} = the upward range of generating capacity for the provision of Regulation from Generating Unit i in Zone X included in the bid accepted by the ISO for Generating Unit i for Settlement Period t, weighted in proportion to the ISO's need for upward Regulation The weighting factors will be specified within a range from 0-100 percent. The weighting factors will be set at the discretion of the ISO based on system conditions, and will be set at a level that will

provide sufficient incentive to the market to supply upward Regulation for the ISO's purposes of satisfying WSCC criteria and NERC control performance standards. The ISO shall post the weighting factors consistent with the ISO Weighting Procedure, posted on the ISO website.

R_{DNixt} = the downward range of generating capacity for the provision of Regulation for Generating Unit i in Zone X included in the bid accepted by the ISO for Generating Unit i for Settlement Period t, weighted in proportion to the ISO's need for downward Regulation. The weighting factors will be specified within a range from 0-100 percent. The weighting factors will be set at the discretion of the ISO based on system conditions, and will be set at a level that will provide sufficient incentive to the market to supply downward Regulation for the ISO's purposes of satisfying WSCC criteria and NERC control performance standards. The ISO shall post the weighting factors consistent with the ISO Weighting Procedure, posted on the ISO website.

C_{UP} = 1

C_{DN} = 1

P_{xt} = the Hourly Ex Post Price for Zone X in Settlement Period t.

The ISO may modify the value of the constants C_{UP} or C_{DN} within a range of 0-1 either generally in regard to all hours or specifically in regard to particular times of the day, after the ISO Governing Board approves such modification, by a notice issued by the Chief Executive Officer of the ISO and posted on the ISO Internet "Home Page," at http//www.caiso.com, or such other Internet address as the ISO may publish from time to time, specifying the date and time

from which the modification shall take effect, which shall be not less than seven (7) days after the Notice is issued.

REPA shall not be payable unless the Generating Unit is available and capable of being controlled and monitored by the ISO Energy Management System over the full range of its Scheduled Regulation capacity for the entire Settlement Period at at least the ramp rates (increase and decrease in MW/minute) stated in its bid. In addition, the total Energy available (R_{UP} plus R_{DN}) may be adjusted to be only R_{UP} or only R_{DN}, a percentage of R_{UP} or R_{DN}, or the sum of R_{UP} and R_{DN}, depending on the needs of the ISO for each direction of Regulation service.

11.2.9.1 Neutrality Adjustments

(d) amounts required with respect to payment adjustments for rRegulatingon Energy as calculated in accordance with Section 2.5.27.1. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their metered Demand (including exports) in MWh for that Trading Day.

29.2.2 Amendments to the Settlement and Billing Protocol

SABP 3.1.1. Additional Charges and Payments

(d) amounts required with respect to payment adjustments for rRegulationgon Energy as calculated in accordance with Section 2.5.27.1 of the ISO Tariff. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their metered Demand (including exports) in MWh for that Trading Day.

C 2.1.3 Real-Time Market

Each Scheduling Coordinator will be paid a Regulation Energy Payment Adjustment for real time incremental or decremental Energy provided from Regulation resources as a result of the ISO's control of those resources. The payment for Scheduling Coordinator j for providing incremental or decremental Energy from resource i in Zone x for Trading Interval t is calculated as follows:

$REPA_{ijxt} = [(RUP_{ijxt} * CUP) + (RDN_{ijxt} * CDN)] * max (\$20/MWh, P_{xt})$

REPA shall not be payable unless the Generating Unit is available and capable of being controlled and monitored by the ISO Energy Management System over the full range of its Scheduled Regulation capacity for the entire Settlement Period at at least the ramp rates (increase and decrease in MW/minute) stated in its bid. In addition, the total Energy available (R_{UP} plus R_{DN}) may be adjusted to be only R_{UP} or only R_{DN}, a percentage of R_{UP} or R_{DN}, or the sum of R_{UP} and R_{DN}, depending on the needs of the ISO for each direction of Regulation service.

C 2.2.4 Real-Time Market

(a) The ISO will charge the costs of purchasing Instructed Imbalance Energy output from Dispatched Spinning Reserve, Non-Spinning Reserve, Replacement Reserve and Supplemental Energy Resources through the Instructed Imbalance Energy settlement process.

(b) The ISO will charge the costs of purchasing Uninstructed Imbalance Energy (including incremental and decremental Energy from Generating Units providing Regulation) through the Uninstructed Imbalance Energy settlement process.

(c) The ISO will charge the costs of Regulation Energy Ppayment Aadjustments as calculated in accordance with Section 2.5.27.1 of the ISO Tariff, in accordance with SABP 3.1.1(d).

C 3 Meaning of terms of formulae

C 3.20A $REPA_{ijxt}$ - $

The Regulation Energy Ppayment Aadjustment payable for real time incremental or decremental Energy provided from Regulation resource i of Scheduling Coordinator j in Zone x in Trading Interval t.

C 3.20B RUP_{ijxt} – MW

The upward Regulation capacity of Regulation resource i in Zone x included in the Final Schedule for Ancillary Services of Scheduling Coordinator j for Trading Interval t, weighted in proportion to the ISO's need for upward Regulation.

C 3.20C RDN_{ijxt} – MW

The downward Regulation capacity of Regulation resource i in Zone x included in the Final Schedule for Ancillary Services of Scheduling Coordinator j for Trading Interval t, weighted in proportion to the ISO's need for downward Regulation.

C 3.20D CUP - number

The constant established by the ISO and subject to change by resolution of the ISO Governing Board. Initially this shall be set at 1. The ISO may modify the value of CUP within a range of 0-1 either generally in regard to all hours or specifically in regard to particular times of the day, after the ISO Governing Board approves such modifications, by a notice issued by the Chief Executive Officer of the ISO and posted on the ISO Internet "Home Page," at http//www.caiso.com, or such other Internet address as the ISO may publish from time to time, specifying the date and time from which the modification shall take effect, which shall be not less than seven (7) days after the Notice is issued.

C 3.20E CDN – number

The constant established by the ISO and subject to change by resolution of the ISO Governing Board. Initially this shall be set at 1. The ISO may modify the value of CDN within a range of 0–1 either generally in regard to all hours or specifically in regard to particular times of the day, after the ISO Governing Board approves such modifications, by a notice issued by the Chief Executive Officer of the ISO and posted on the ISO Internet "Home Page," at http//www.caiso.com, or such other Internet address as the ISO may publish from time to time, specifying the date and time from which the modification shall take effect, which shall be not less than seven (7) days after the Notice is issued.

Amendments to the Master Definitions in the ISO Tariff.

Regulation Energy Payment Adjustment	The additional value of regulating Energy.

AMENDMENT TO THE SCHEDULES AND BIDS PROTOCOL

SBP 5.1.1 Regulation

(j) bid price for r~~R~~egulatingon~~on~~ Energy ($/MWh) (required for validation of bid only).