



MSRS Report Format Documentation

Regulation Intra-Commitment Opportunity Cost Details

Version 1

Revision History

DATE	REVISION	DESCRIPTION
12/1/2026	1	Initial Distribution

1 Report

MSRS Report Name: Regulation Intra-Commitment Opportunity Cost Details

Report short name for User Interface: Regulation Intra-Commitment Opportunity Cost Details

Download File Name Abbreviation: IntOppCost

Data Granularity: Sub-hourly

Frequency: Updated daily

Range Displayed on Report: Start Date through End Date

2 Supported Billing Line Items

- Regulation and Frequency Response Service Credit (2340)

3 Report Content Summary

This report displays the customer account's 5-minute Regulation Intra-Commitment Opportunity Cost Details for non-hydro generation units. The amounts in this report do not reflect the customer account's share of jointly owned resources. All owners will see the full MWs and opportunity costs assigned to the resource.

4 Summary of Changes and Special Logic

5 Report Columns

The following columns will appear in the body of the report:

Online and CSV Column Name	XML Column Name	Column Number	Data Type
Customer ID	CUSTOMER_ID	4000.01	INTEGER
Customer Code	CUSTOMER_CODE	4000.02	VARCHAR2(6)
EPT Interval Ending	EPT_INTERVAL_ENDING	4001.40	VARCHAR2(40) mm/dd/yyyy HH24:MM format (Displays first interval of the day as hour 0 minute 05 and last interval of the day as hour 24 minute 00)
GMT Interval Ending	GMT_INTERVAL_ENDING	4001.41	VARCHAR2(40) mm/dd/yyyy HH24:MM format (Displays first interval of the day in relation to EPT interval as hour 04 minute 05 or hour 05 minute 05 (EDT/EST depending) and last interval of the day as hour 04 minute 00 of the next day or hour 05 minute 00 of the next day (EDT/EST depending))
Regulation Duration (% 5 Min Interval)	REG_DURATION	2340.72	NUMBER
Unit ID	UNIT_ID	4000.63	NUMBER(8,0)
Unit Name	UNIT_NAME	4000.64	VARCHAR2(75)
Unit Ownership Share	UNIT_OWNERSHIP_SHARE	3000.80	NUMBER
RT Schedule Id	RT_SCHED_ID	3002.19	NUMBER

Economic Min MW	ECON_MIN_MW	3002.22	NUMBER
Economic Max MW	ECON_MAX_MW	3002.23	NUMBER
Regulation Min MW	REG_MIN_MW	3004.41	NUMBER
Regulation Max MW	REG_MAX_MW	3004.42	NUMBER
Reg Min MW Used	REG_MIN_MW_USED	2340.78	NUMBER
Reg Max MW Used	REG_MAX_MW_USED	2340.79	NUMBER
PJM-Assigned RegUp MW	PJM_ASSIGNED_REGUP_MW	2340.68	NUMBER
PJM-Assigned RegDn MW	PJM_ASSIGNED_REGDN_MW	2340.69	NUMBER
RegUp Bias Factor	REGUP_BIAS_FACTOR	2340.73	NUMBER
RegDn Bias Factor	REGDN_BIAS_FACTOR	2340.74	NUMBER
Reg Bidirectional Bias Factor	REG_BIDIR_BIAS_FACTOR	2340.75	NUMBER
Tracking Ramp Limit Desired MW	TRLD_MW	2340.80	NUMBER
Tracking Regulation Set Point MW	TRLD_AS_MW	2340.81	NUMBER
Biased Regulation Set Point MW	BIASED_REG_SET_POINT_MW	2340.82	NUMBER
LOC Indicator	LOC_IND	3004.60	VARCHAR2(1) See possible values below
Make Whole Indicator	MAKE_WHOLE_IND	3004.61	VARCHAR2(1) See possible values below
RT LMP (\$/MWh)	RT_LMP	3000.25	NUMBER
Begin Point MW	BEGIN_POINT_MW	2340.83	NUMBER
End Point MW	END_POINT_MW	2340.84	NUMBER
Begin Energy Offer Price (\$/MWh)	BEGIN_ENGY_OFFER_PRICE	2340.85	NUMBER
End Energy Offer Price (\$/MWh)	END_ENGY_OFFER_PRICE	2340.86	NUMBER
RT Energy Offer Amount (\$)	RT_ENERGY_OFFER_AMT	3001.88	NUMBER
Opportunity Cost (\$)	OPPORTUNITY_COST	2340.60	NUMBER
Prorated Opportunity Cost (\$)	PRORATED_OPP_COST	2340.77	NUMBER
Version	VERSION	4000.07	VARCHAR2(12)

LOC Indicator: Y or N

Make Whole Indicator: Y or N

6 CSV Report Example

See Excel file titled "Regulation Intra-Commitment Opportunity Cost Details CSV Format.csv"

7 XML Report Example

See XML file titled "Regulation Intra-Commitment Opportunity Cost Details XML Format.xml"

8 Supporting Calculations

Reg Min MW Used = Max (Economic Min MW, Regulation Min MW)

$$2340.78 = \text{Max} (3002.22, 3004.41)$$

Reg Max MW Used = Min (Economic Max MW, Regulation Max MW)

$$2340.79 = \text{Min} (3002.23, 3004.42)$$

If unit cleared for RegUp only (PJM-Assigned RegUp MW (2340.68) > 0 and PJM-Assigned RegDn MW (2340.69) = 0) then:

Biased Regulation Set Point MW = Tracking Regulation Set Point MW + (PJM-Assigned RegUp MW * RegUp Bias Factor)

$$2340.82 = 2340.81 + (2340.68 * 2340.73)$$

Else if unit cleared for RegDn only (PJM-Assigned RegUp MW (2340.68) = 0 and PJM-Assigned RegDn MW (2340.69) > 0) then:

Biased Regulation Set Point MW = Tracking Regulation Set Point MW + (PJM-Assigned RegDn MW * RegDn Bias Factor)

$$2340.82 = 2340.81 + (2340.69 * 2340.74)$$

Else unit cleared for both RegUp and RegDn (PJM-Assigned RegUp MW (2340.68) > 0 and PJM-Assigned RegDn MW (2340.69) > 0) then:

If Reg Bidirectional Bias Factor (2340.75) > 0 then:

Biased Regulation Set Point MW = Tracking Regulation Set Point MW + (PJM-Assigned RegUp MW * Reg Bidirectional Bias Factor)

$$2340.82 = 2340.81 + (2340.68 * 2340.75)$$

Else if Reg Bidirectional Bias Factor (2340.75) < 0 then:

Biased Regulation Set Point MW = Tracking Regulation Set Point MW + (PJM-Assigned RegDn MW * Reg Bidirectional Bias Factor)

$$2340.82 = 2340.81 + (2340.69 * 2340.75)$$

Else

Biased Regulation Set Point MW = Tracking Regulation Set Point MW

$$2340.82 = 2340.81$$

Begin Point MW = Min (Tracking Ramp Limit Desired MW, Biased Regulation Set Point MW)

$$2340.83 = \text{Min} (2340.80, 2340.82)$$

End Point MW = Max (Tracking Ramp Limit Desired MW, Biased Regulation Set Point MW)

$$2340.84 = \text{Max} (2340.80, 2340.82)$$

If Make Whole indicator (3004.61) = 'N' and LOC Indicator (3004.60) = 'N' then:

$$\text{RT Energy Offer Amount (3001.88)} = 0$$

Else

RT Energy Offer Amount (3001.88) = Energy offer amount from the incremental energy offer for the unit's RT Schedule Id between the Begin Point MW and End Point MW

If Make Whole indicator (3004.61) = 'N' and LOC Indicator (3004.60) = 'N' then:

$$\text{Opportunity Cost (\$)} = 0$$

$$2340.60 = 0$$

Else If LOC Indicator (3004.60) = 'Y'

$$\text{Opportunity Cost (\$)} = \text{Max} \{ \text{RT LMP} * (\text{End Point MW} - \text{Begin Point MW}) - \text{RT Energy Offer Amount}, 0 \}$$



$$2340.60 = \text{Max} \{3000.25 * (2340.84 - 2340.83) - 3001.88, 0\}$$

Else Make Whole Indicator (3004.61) = 'Y'

$$\text{Opportunity Cost (\$)} = \text{Max} \{\text{RT Energy Offer Amount} - \text{RT LMP} * (\text{End Point MW} - \text{Begin Point MW}), 0\}$$

$$2340.60 = \text{Max} \{3001.88 - 3000.25 * (2340.84 - 2340.83), 0\}$$

Prorated Opportunity Cost (\$) = Opportunity Cost * Regulation Duration

$$2340.77 = 2340.60 * 2340.72$$