MSRS Report Format Documentation

Regulation Hydro Opportunity Cost Details

Version 1

Revision History

DATE	REVISION	DESCRIPTION
12/1/2026	1	Initial Distribution

1 Report

MSRS Report Name: Regulation Hydro Opportunity Cost Details

Report short name for User Interface: Regulation Hydro Opportunity Cost Details

Download File Name Abbreviation: HydOppCost

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 Opportunity Cost Details for 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
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
Regulation Deviation MW	REGULATION_DEVIATION_MW	2340.76	NUMBER
Hydro Spill Indicator	HYDRO_SPILL_INDICATOR	4000.67	VARCHAR2(1) See possible values below
DA Scheduled MWh	DA_SCHD_MWH	3000.32	NUMBER
Hydro Average LMP ($/MWh)	HYDRO_AVG_LMP	2340.62	NUMBER
RT LMP ($/MWh)	RT_LMP	3000.25	NUMBER
Opportunity Cost ($)	REG_OPPORTUNITY_COST	2340.60	NUMBER
Prorated Opportunity Cost ($)	PRORATED_REG_OPP_COST	2340.77	NUMBER
Version	VERSION	4000.07	VARCHAR2(12)

Hydro Spill Indicator: Y or N

6 CSV Report Example

See Excel file titled “Regulation Hydro Opportunity Cost Details CSV Format.csv”

7 XML Report Example

See XML file titled “Regulation Hydro Opportunity Cost Details XML Format.xml”

8 Supporting Calculations

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

Regulation Deviation MW = PJM-Assigned RegUp MW * (1 - RegUp Bias Factor)

2340.76 = 2340.68 * (1 – 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:

Regulation Deviation MW = PJM-Assigned RegDn MW * ABS(RegDn Bias Factor)

2340.76 = 2340.69 * ABS(2340.74)

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

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

Regulation Deviation MW = PJM-Assigned RegUp MW * (1 - Reg Bidirectional Bias Factor)

2340.76 = 2340.68 * (1 - 2340.75)

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

Regulation Deviation MW = PJM-Assigned RegUp MW + (PJM-Assigned RegDn MW * ABS (Reg Bidirectional Bias Factor))

2340.76 = 2340.68 + (2340.69 * ABS (2340.75))

If Hydro Spill Indicator (4000.67) = N then

If DA Scheduled MWh (3000.32) > 0 then

Opportunity Cost ($) = MAX {Regulation Deviation MW * (RT LMP – Hydro Average LMP), 0}

2340.60 = MAX {2340.76 * (3000.25 – 2340.62) ,0}

Else

Opportunity Cost ($) = MAX {Regulation Deviation MW * (Hydro Average LMP – RT LMP), 0}

2340.60 = MAX {2340.76 * (2340.62 – 3000.25) ,0}

Else (Hydro Spill Indicator (4000.67) = Y)

Opportunity Cost ($) = Regulation Deviation MW * RT LMP

2340.60 = 2340.76 * 3000.25

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

2340.77 = 2340.60 * 2340.72