



# MSRS Report Updates for Solar and Hybrid Lost Opportunity Cost Credits

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- FERC Docket [ER23-2484](#)
  - Filing included Lost Opportunity Cost (“LOC”) revisions for Hybrids, ESR Model Participants, and Solar Resources
  - Target Implementation Date: **December 1, 2024**
- Similar to wind resources, back-cast need to be collected on each individual solar resource and renewable component of hybrid resource to calculate Lost Opportunity Cost (LOC). Additionally State of Charge (SOC) of storage component of hybrid and ESRs are also needed to calculate LOC.

- 2 existing reports updated:
  - Operating Reserve Lost Opportunity Cost Credits
    - New columns added - Solar Forecast MW, ESR SOC MW, and Hybrid Forecast MW
  - CT Lost Opportunity Cost Forfeiture
    - New columns added - Solar Forecast MW, ESR SOC MW, and Hybrid Forecast MW



# Operating Reserve Lost Opportunity Cost Credits

- Add additional columns Solar Forecast MW, ESR SOC MW, and Hybrid Forecast MW
- Updates effective for trade dates beginning 12/1/2024

Online and CSV Column Name	XML Column Name	Column Number	Data Type
Solar Forecast MW	SOLAR_FORECAST_MW	3001.75	NUMBER(22,3)
ESR SOC MW	ESR_SOC_MW	3001.76	NUMBER(22,3)
Hybrid Forecast MW	HYBRID_FORECAST_MW	3001.77	NUMBER(22,3)

- Updated calculation for MW Reduced

If the unit is a Solar unit, then:

MW Reduced = MIN(RT LMP Desired MW, **Solar Forecast MW**) – RT Generation – Reg MW Adj – Synch Reserve MW Adj – Sec Reserve MW Adj – Reg High < LMP Desired

(3000.96) = MIN( (3000.34), (3001.75)) - (3000.33) – (3000.94) – (3000.95) – (3000.90) – Reg High < (3000.99)

If the unit is in the ESR participation model, then:

MW Reduced = MIN(RT LMP Desired MW, **ESR SOC MW**) – RT Generation – Reg MW Adj – Synch Reserve MW Adj – Sec Reserve MW Adj – Reg High < LMP Desired

(3000.96) = MIN( (3000.34), (3001.76)) - (3000.33) – (3000.94) – (3000.95) – (3000.90) – Reg High < (3000.99)

If the unit is a Hybrid unit, then:

MW Reduced = MIN(RT LMP Desired MW, **Hybrid Forecast MW**) – RT Generation – Reg MW Adj – Synch Reserve MW Adj – Sec Reserve MW Adj – Reg High < LMP Desired

(3000.96) = MIN( (3000.34), (3001.77)) - (3000.33) – (3000.94) – (3000.95) – (3000.90) – Reg High < (3000.99)

Operating Reserve Lost Opportunity Cost Credit = [MW Reduced \* (MAX(RT Generator LMP – Offer at RT MW), 0)] / 12

(2375.18) = [(3000.96) \* (max((3000.25) – (3000.93)), 0)] / 12



# CT Lost Opportunity Cost Forfeiture

- Add additional columns Solar Forecast MW, ESR SOC MW, and Hybrid Forecast MW
- Updates effective for trade dates beginning 12/1/2024

Online and CSV Column Name	XML Column Name	Column Number	Data Type
Solar Forecast MW	SOLAR_FORECAST_MW	3001.75	NUMBER(22,3)
ESR SOC MW	ESR_SOC_MW	3001.76	NUMBER(22,3)
Hybrid Forecast MW	HYBRID_FORECAST_MW	3001.77	NUMBER(22,3)

- Updated calculation for MW Reduced

If the unit is a Solar unit, then:

MW Reduced = MIN(RT LMP Desired MW, **Solar Forecast MW**) – RT Generation – Reg MW Adj – Synch Reserve MW Adj – Sec Reserve MW Adj – Reg High < LMP Desired

(3000.96) = MIN( (3000.34), (3001.75)) - (3000.33) – (3000.94) – (3000.95) – (3000.90) – Reg High < (3000.99)

If the unit is in the ESR participation model, then:

MW Reduced = MIN(RT LMP Desired MW, **ESR SOC MW**) – RT Generation – Reg MW Adj – Synch Reserve MW Adj – Sec Reserve MW Adj – Reg High < LMP Desired

(3000.96) = MIN( (3000.34), (3001.76)) - (3000.33) – (3000.94) – (3000.95) – (3000.90) – Reg High < (3000.99)

If the unit is a Hybrid unit, then:

MW Reduced = MIN(RT LMP Desired MW, **Hybrid Forecast MW**) – RT Generation – Reg MW Adj – Synch Reserve MW Adj – Sec Reserve MW Adj – Reg High < LMP Desired

(3000.96) = MIN( (3000.34), (3001.77)) - (3000.33) – (3000.94) – (3000.95) – (3000.90) – Reg High < (3000.99)

Operating Reserve Lost Opportunity Cost Credit = [MW Reduced \* (MAX(RT Generator LMP – Offer at RT MW), 0)] / 12

(2375.18) = [(3000.96) \* (max((3000.25) – (3000.93)), 0)] / 12

- Report Column updates will be effective for trade dates beginning 12/1/2024.
  - Sandbox targeted for week of 11/4/2024
- New MSRS report documentation will be posted to the MSRS Reports Web Page (<https://www.pjm.com/markets-and-operations/billing-settlements-andcredit/msrs-reports-documentation>) under the Operating Reserve category
- Pardot communication will be distributed detailing availability of updated documentation
- Please direct any questions related to report updates to [mrkt\\_settlement\\_ops@pjm.com](mailto:mrkt_settlement_ops@pjm.com)

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**MSRS Report Updates for Solar and Hybrid  
Lost Opportunity Cost Credits**



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