

# Maximum Generation Emergency Make Whole Credit Forfeiture Education

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# Maximum Generation Emergency Make Whole Credit Forfeiture

- The tariff contains provisions that may trigger the forfeiture of a resource's energy make whole (operating reserve) credits if resources are committed on a price-based schedule with a mark up and PJM:
  - Declares a Maximum Generation Emergency
  - Issues a Maximum Generation Emergency Alert
  - Schedules units based on the anticipation of a Maximum Generation Emergency or Maximum Generation Emergency Alert

*(OATT Attachment K-Appendix, Section 3.2.3 (l), (m), (n))*
- This language is a form of market mitigation that was implemented ~25 years ago to prevent units from collecting excessive uplift during emergencies based on submission of inflexible operating parameters

- As supply tightens, PJM has increasingly issued Maximum Generation Emergency Actions/Alerts
  - 3 in 2022, 2 in 2023, 1 in 2024, 11 in 2025
- The purpose of this presentation is to promote awareness of the rules and provide guidance on how to prevent unintended impacts to member settlements.
  - Triggering conditions exist for both day-ahead and real-time energy make whole credits

The following rules apply if the notice of Max Gen Conditions is given the day before the Operating Day **and** a unit is not scheduled on its cost-based offer:

- Energy make whole credits are limited such that total compensation (DA revenue plus make whole) cannot exceed \$1,000/MWh as specified in section 3.2.3(n)
- However, **All** DA make whole credit is forfeit when:
  - Notice of Max Gen Condition is provided before 11:00 a.m. the day before the Operating Day **AND**
  - Effective Offer Price for a scheduled market-based offer is greater than \$1,000/MWh **and** greater than the Market Seller's lowest available and applicable cost-based offer
    - Effective Offer Price is a calculated value that considers the full 3-part offer as well as the revenues and/or the operating reserve credits the resource would have received

The following rules apply when notice of Max Gen Conditions is effective for the Operating Day, regardless of when issued, and the unit is not committed on its cost-based offer in real-time:

- The resource shall not receive any balancing energy make whole credits if:
  - It runs on a market-based schedule and
  - The Effective Offer on that schedule is greater than \$1,000/MWh and
  - That schedule is greater than the Market Seller's lowest available and applicable cost-based offer

- Participants can avoid forfeiture of Day-Ahead make whole payments in anticipation of Maximum Generation Emergency Action/Alert by:
  - Offer Price and Price PLS Schedules without a markup and with Min Run Parameters consistent with Unit Specific values
- Units can avoid forfeiture of Real-Time make whole payments under Maximum Emergency Conditions by:
  - use “Switch to Cost” option during Maximum Generation Emergency Action/Alert conditions
    - Ensures running on Cost schedule

*These are the same actions resources can take to receive excusal from PAI penalties when following PJM dispatch*

1	2	3
<ul style="list-style-type: none"> <li>Tariff provisions exist whereby make whole credits can be forfeited during or approaching Maximum Generation Emergency Action/Alerts</li> </ul>	<ul style="list-style-type: none"> <li>Triggering conditions are more probable heading into cold weather operations</li> </ul>	<ul style="list-style-type: none"> <li>Participants can submit offers in a way to avoid forfeitures</li> </ul>



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**Maximum Generation Emergency Make Whole  
Credit Forfeiture Education**



### Member Hotline

(610) 666 – 8980

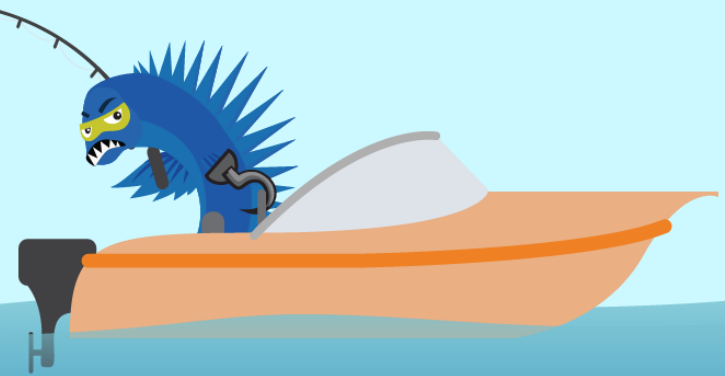
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**PROTECT THE  
POWER GRID**  
**THINK BEFORE  
YOU CLICK!**



**BE ALERT TO  
MALICIOUS PHISHING  
EMAILS**



**Report suspicious email activity to PJM.**  
Call (610) 666-2244 or email [it\\_ops\\_ctr\\_shift@pjm.com](mailto:it_ops_ctr_shift@pjm.com)

# Appendix

Day-ahead Effective Offer = Energy offer for Specified Hours + (daily calculated DA uplift credits divided by the offered MWh during the Specified Hours)

Where Specified Hours = minimum of

- the price offer's specified minimum run hours

AND

- for Steam and CCs: the six consecutive hours of highest Day-ahead Prices when the units are running

OR

- for CTs: the two consecutive hours of highest Day-ahead Prices when such units are running.

Real-time Effective Offer = (Real-time Energy Market Revenues for economic intervals + calculated Balancing uplift credits) divided by the MWh provided during the economic intervals

Where Economic Hours =

- the intervals that the offer price for energy is less than or equal to the RT LMP

AND

- the intervals in which the unit operates at PJM's direction in excess of its required minimum run time or other operating constraint and the Energy offer is greater than RT LMP

AND

- any hours operated at the direction of PJM where the unit has minimum run time of one hour or less and has more than one start available per day

## Assume for a CC:

- Price Based Offer, Scheduled DA HE7-HE17
- 100 MW @ \$750
- Min Run Time = 6 Hours
- Max Gen Alert in effect after DA:

## Day-ahead Effective Offer

= Energy offer for Specified Hours

$$(\$750 \text{ Offer} * 100 \text{ MW} * 6 \text{ hours}) = \$450,000$$

+ daily calculated DA uplift credits

For each hour where DA Offer > DA LMP,

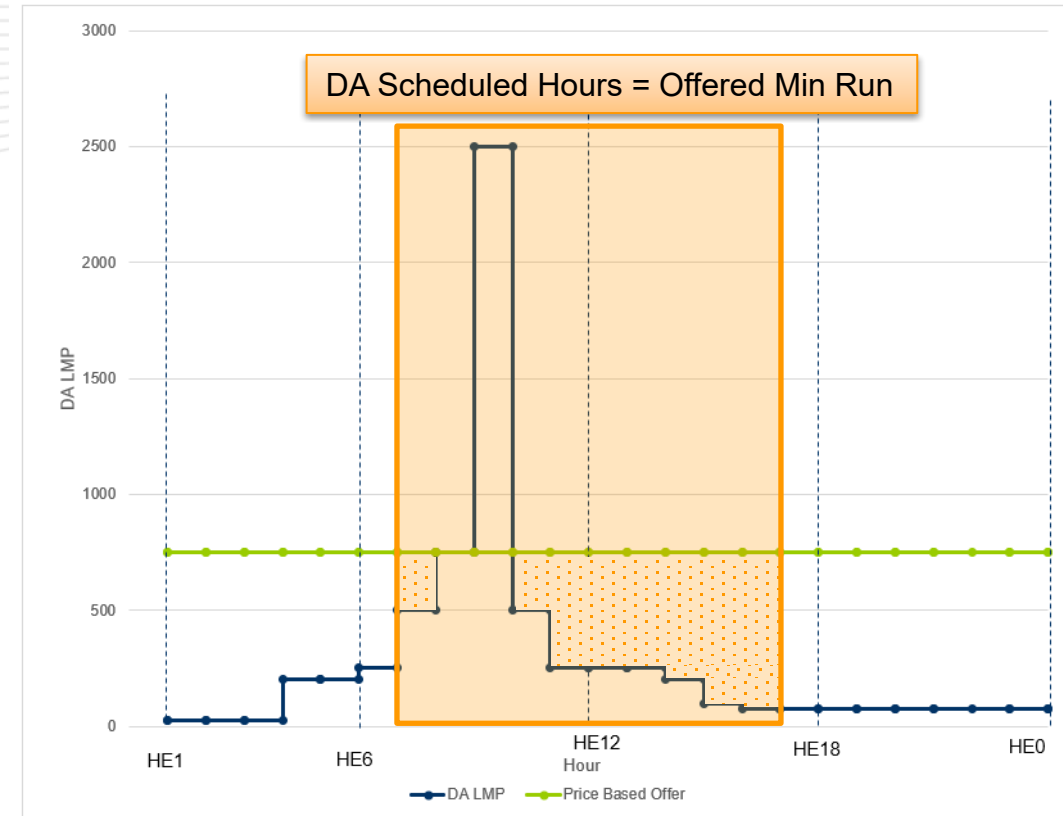
$$(\$750 \text{ offer} - \text{DA LMP}) * 100 \text{ MW} = \$387,500$$

divided by the offered MWh during the Specified Hours

$$(100 \text{ MW} * 6 \text{ hour Min Run}) = 600 \text{ MWh}$$

$$= (\$450,000 + \$387,500) / 600 \text{ MWh}$$

= \$1,395.83 which would trigger forfeiture of DA uplift subject to the provisions in 3.2.3(n)



Uplift Awarded = \$387,500