

Potential Market Problem Update - AMP

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Agenda

- What is AMP
- Overview and Timeline of the Issue
- Assessment of Impact
- Next Steps
- Questions

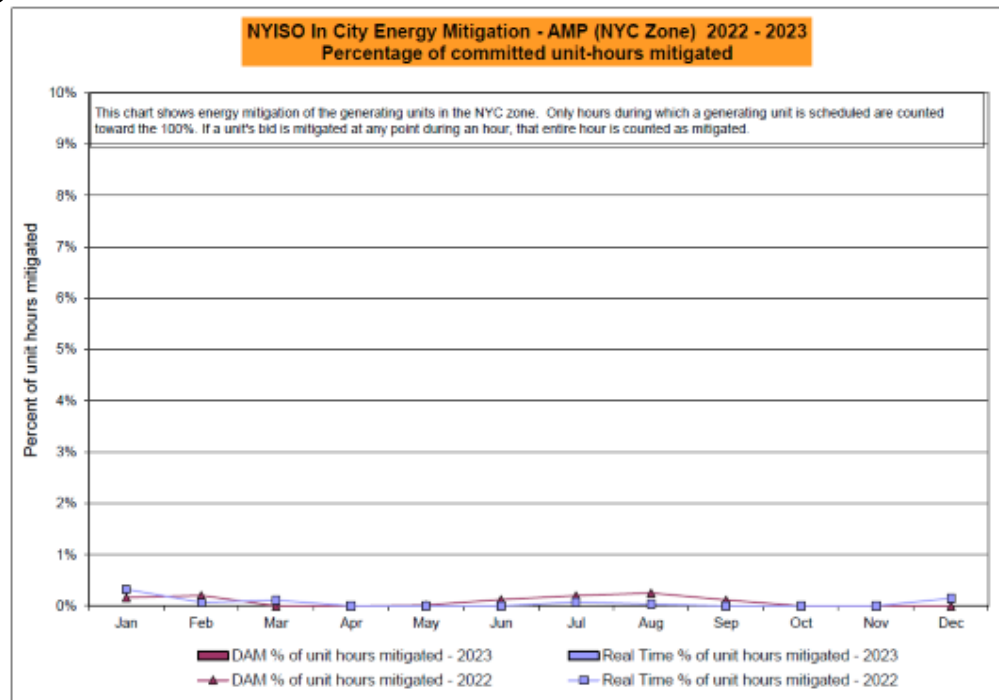
Automated Mitigation Process (AMP)

AMP Background

- **Attachment H of the Market Services Tariff requires the NYISO to have *ex ante* mitigation measures for the NYISO DA and RT energy markets for In-City (Zone J) Generators.**
 - This is effectuated by NYISO's Automated Mitigation Process (AMP)
- **AMP is part of the optimization evaluations in the Day Ahead Market (DAM) and hourly in the Real Time Commitment (RTC) and is applied for the remainder of the hour**
- **AMP mitigation only occurs if three conditions are met:**
 - Trigger – does the constraint in NYC exceed the applicable thresholds for activation of AMP
 - Conduct – does the Generator's offer exceed the applicable thresholds (Load Pocket Thresholds or "LPTs", or zonal threshold)
 - Impact – does mitigating the unit(s) offer (replacing the unit's offer with their Reference curve) materially impact prices or guarantee payments
- **No-Harm – if applying the mitigation would increase the overall solution cost, mitigation is not applied**
- **AMP can mitigate conduct-failing Incremental Energy curves, Start-up, and Min Gen offers**

Frequency of AMP

- Historically AMP replaces offers very infrequently.
- The chart to the right shows that generally less than .5% of unit hours are mitigated.



Market Mitigation and Analysis
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Overview and Timeline of Potential Market Problem

Overview of Issue

- **NYISO determined that a software deployment on April 19, 2023 created issues which prevented AMP from working correctly.**
- **The deployment created two sets of issues.**
 - Primary issue was that internal mapping mechanisms prevented AMP from effectively executing trigger, impact, and No-harm.
 - Additionally, startup and mingen references were not being properly passed to AMP for evaluation. This second issue had no impact on outcomes as the primary issue superseded it.

Timeline of Discovery

- **The NYISO identified that AMP appeared to not be working correctly on Thursday, July 6th and began to investigate the cause.**
- **After discussions with the MMU and FERC OE, the NYISO issued a notice of a Potential Market Problem to the marketplace on Tuesday July 11th.**
 - To avoid possible gaming or manipulation this announcement was noticed as a confidential investigation
- **The software issues were resolved for the 7/18 DA market run.**
- **On Wednesday, July 19th, NYISO issued an updated notice providing more information about the nature of the potential market problem.**

Assessment of Impact

Review of Behavior

- **Both the NYISO and the MMU have reviewed behavior during the period of missed mitigation.**
 - To date, we have not identified any apparent changes in behavior attempting to take advantage of the AMP software issues.
- **The NYISO and the MMU have not completed their review yet.**

Impact Assessment

- In order to assess the impact of missed mitigation, NYISO is rerunning DA market solutions from April 19 through July 16.
- This analysis is still under way (roughly $\frac{3}{4}$ complete). The analysis is expected to be concluded soon.
- To date, only one rerun indicates that mitigation was missed.
 - The production cost impact for the affected day is less than \$1,000
- NYISO and the MMU have been discussing ways to identify periods of missed mitigation and quantify the potential impact.

Next Steps

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- **Once NYISO has completed its review of the DA market impacts, a determination will be made on if this issue meets the materiality thresholds for a Market Problem.**
- **NYISO will follow-up with FERC and the Stakeholders on the outcome of the analysis, and the determination.**

Questions?