

Potential Market Problem - Update

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Agenda

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 - What is AMP
 - Overview and Timeline of the Issue
- **Assessment of Impact**
 - Day-ahead market
 - Real-time market
- **Determination**
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Background

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

Overview and Timeline of Potential Market Problem

Overview of Issue

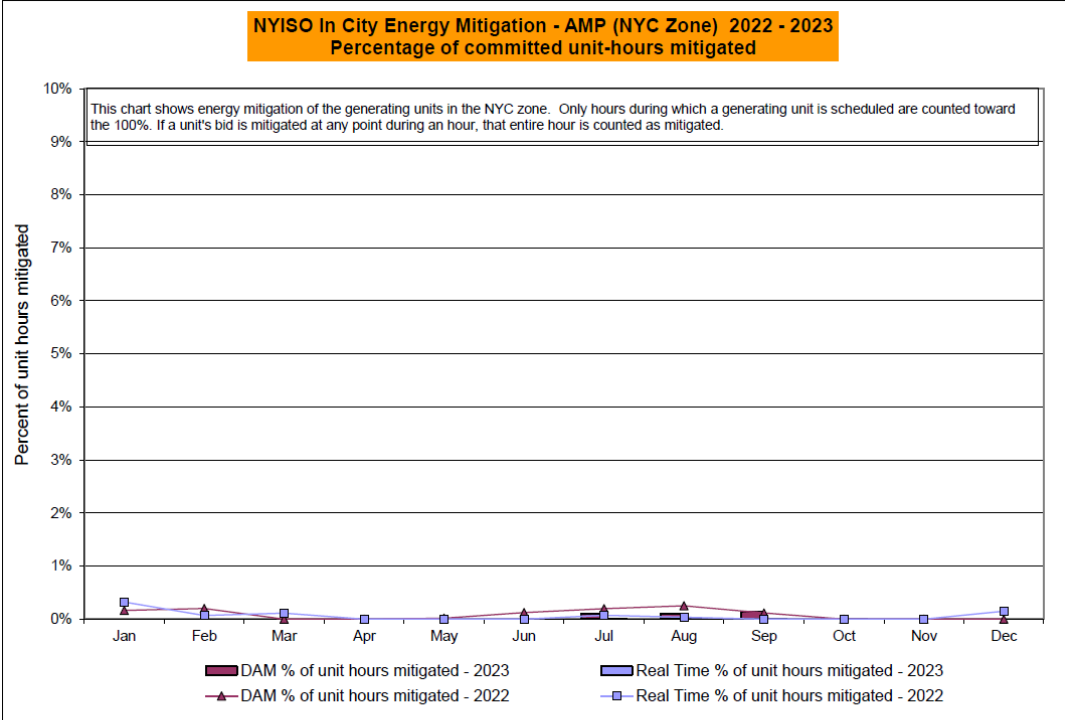
- **NYISO determined that a software deployment on April 19, 2023, created issues which prevented AMP from working correctly.**
- **The deployment created two sets of issues.**
 - Primary issue was that internal mapping mechanisms prevented AMP from effectively executing trigger, impact, and No-harm.
 - Additionally, start-up and minimum generation 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 This second issue had no impact on outcomes as the primary issue superseded it.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.**

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.
- Additionally, during the time AMP was not working, the system conditions were mild such that on most days the “trigger” conditions for AMP did not materialize.



Assessment of Impact

Review of Behavior

- **Both the NYISO and the MMU reviewed behavior during the period of missed mitigation.**
 - We did not identify any apparent changes in behavior attempting to take advantage of the AMP software issues.
- **The NYISO has completed its review of the day-ahead and real-time markets during the time AMP was not working.**

Day Ahead Impact Assessment

- To assess the impact of missed mitigation, NYISO re-ran DA market solutions from April 19 through July 16, for the days where load pocket congestion was observed.
 - Load pocket congestion is a necessary trigger criteria for AMP
- The Day-Ahead Market was rerun using a software patch that applied the AMP fix and the correct values for start-up and minimum generation reference levels.
- The NYISO determined that AMP only missed applying mitigation on 3 days.
- The total production cost impact from AMP not working properly in the Day-Ahead Market was up to \$41,729 spread across 3 separate days.

Real Time Impact Assessment

- For real-time impact assessment, the NYISO used market data and performed an analysis.
- The NYISO ultimately determined that real-time AMP only missed applying mitigation in 2 hours while it was not working properly.
- The total production cost impact of the missed real-time mitigation was \$893.

Determination

Determination

- **Based on the analysis of the market impacts, this issue does not meet the materiality thresholds for a Market Problem.**
- **The NYISO has discussed the analysis approach, results and the determination with the MMU who agrees with the NYISO's assessment.**
- **The NYISO has engaged FERC staff on this matter and has provided information on this analysis.**

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Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

Questions?