Generator Transition Rate Matrices: Software Transition

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Background

- **The Generator Availability Data System (GADS) Open Source (GADS OS) software was utilized by the NYISO to collect operating data from Generators participating in the Installed Capacity (ICAP) market**
  - This operating data was used as an input for generating statistics such as resource-specific derating factors used in calculating each resource's Unforced Capacity (UCAP) for participation in the ICAP market

- **In 2011, the Generator Transition Rate Matrices approach for input into the GE Multi-Area Reliability Simulation (MARS) was developed by the New York State Reliability Council (NYSRC) and the functionality was built within the GADS OS software[1]**
  - The Generator Transition Rate Matrices were created to simulate a probabilistic four-state representation of generators status used in the GE MARS simulation with GADS data.
    - The Generator Transition Rate methodology coded in GADS OS was developed to maintain consistency in the total UCAP modeled to the amount used in the ICAP market
    - Original implementation had a less than 0.6% difference in the "EFORdAPA" used in MARS to the ICAP market Equivalent Demand Forced Outage Rate (EFORd).

- **Effective October 2025, the NYISO transitioned to a new generator availability data reporting software known as PowerGADS, following the retirement of the GADS OS software**
  - The transition was completed with all historical data from GADS OS migrated into the PowerGADS system

1. NYSRC Transition Matrix Whitepaper

New York ISO

PowerGADS

- **PowerGADS is a web-based, GADS data-reporting application developed by Integ Enterprise Consulting Inc. (Integ)**
  - Integ has over 25 years of experience working with NERC GADS reporting solutions
  - PowerGADS is a trusted software solution, already being used by most major utilities and nearly every ISO/RTO in the United States.

- **Through a competitive procurement process, the NYISO selected PowerGADS as the replacement software for GADS OS, and since October 2025, generators have been reporting availability data in PowerGADS**

- **The NYISO built the Generator Transition Rate Matrices codes within new PowerGADS application in late January 2026.**
  - The new codes in PowerGADS follow a consistent approach with the ones previously in GADS OS
  - Certain adjustments to the codes were made to account for differences in the underlying software and to appropriately transition the coding.

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Next Steps

- The NYISO plans to return to an upcoming ICS meeting to discuss the new Generator Transition Rate Matrices codes in PowerGADS.

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Questions?

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Our Mission and Vision

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

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