NYISO BUDGET AND PRIORITIES WORKING GROUP

Proposed 2024 Market Projects

HQUS PRESENTATION TO BPWG – ***REVISED***
MAY 22, 2023

PROJECT #14 (PREVIOUSLY #13)

Integrating Champlain Hudson Power Express (CHPE)

According to the NYISO, CHPE is needed in 2026 to preserve reliability margins in NYC.

Under FERC rules for merchant transmission lines, operational control over CHPE must be transferred to the NYISO.

CHPE and NYISO must:

- enter into a formal operating agreement (largely based on OATT Att. Y, App. H, s. 31.11)
- agree on business rules and processes to be applied in the CHPE OASIS and the NYISO systems for the scheduling of energy
- agree on a Rate Schedule for the assignment or sale of secondary transmission capacity on CHPE to third parties (to be approved by FERC)

Project #14 is necessary in 2024 to comply with FERC requirements and to preserve NYC reliability margins.

PROJECT #1

5-Minute Transaction Scheduling

5-minute scheduling was originally proposed in 2009 for the Massena intertie to increase flexibility on the upstate grid.

The commissioning of CHPE in 2026 highlights the need for an evolution in transaction scheduling:

- Under current rules, energy deliveries over CHPE **would be scheduled hourly or every 15 minutes in RTC**
- 15-minute schedules are set 30 to 45 minutes ahead, i.e. too far in advance to be of much use in real-time operations
- Currently RTC and RTD convergence is a challenge that will likely present reliability issues during low load, high wind periods (excessive negative RTD prices)

HQUS PROPOSAL

Project #1 (5-Minute Transaction Scheduling) Maximizes the Value of Project #14 (Integrating CHPE)

5-minute transaction scheduling will provide NYISO with considerable operational flexibility in the use of CHPE:

- NYISO will be able to adjust deliveries over CHPE interval by interval, according to the economic ranking of offers of all suppliers
- This will greatly assist NYISO in balancing renewable and intermittent generation across the State, including offshore wind (**Project #4 – Balancing Intermittency**)
  - **Provide much needed interval-to-interval ramping capability across the system**
  - **CHPE ramp rate of hundreds of MW per minute potentially (actual rate to be agreed between HQ and NYISO operations teams)**

Operating CHPE on an hourly or 15-minute scheduling basis is a lost opportunity

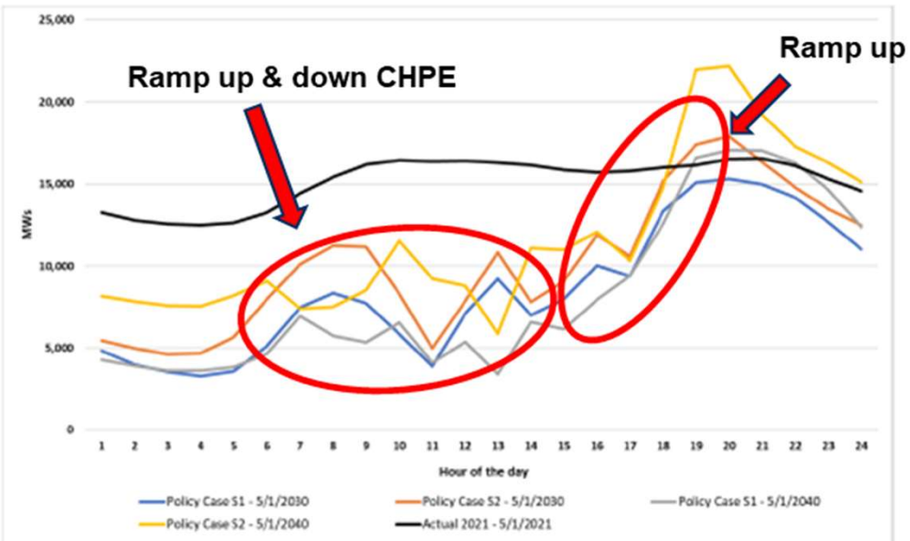
EXAMPLE

Low-Load, High-Wind Scenario

Under such a scenario, 5-minute dispatch over CHPE would:

- offer an extremely flexible solution for load balancing supported by the entire Hydro-Québec hydropower system
- reduce the need for out-of-market actions like wind curtailment

Figure 3: Shoulder Peak Net Load Shapes for 2030, 2040 (and actual 2021)



Based on: NYISO, 2022 Grid in Transition Study, Dec. 19, 2022

5-minute Transaction Scheduling Increases CHPE's Market and Reliability Value to the System

OTHER BENEFITS

Increased Reliability and Resiliency

Being able to schedule CHPE on a 5-minute basis will:

- provide NYISO with a valuable in-market reliability tool to deal with any kind of system disturbances, not just related to intermittency, such as:
  - thunderstorm alerts;
  - transmission or generation trips;
  - sudden loss of a large load; etc.

Recommendations

- Project #14 (Integrating CHPE) is necessary to comply with FERC requirements and to preserve NYC reliability margins.
- Project #1 (5-Minute Transaction Scheduling) should be adopted to:
  - facilitate NY State and NYISO objectives and provide support to Project #4 (Balancing Intermittency);
  - unlock the full potential of CHPE in the New York market;
  - provide NYISO with considerable operational flexibility to manage intermittency and system disturbances.

Thank you!

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