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Independent System Operator

# Champlain Hudson Power Express (CHPE): Installed Capacity Market Integration Considerations


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# Agenda

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  - Considerations for Certain New Resource Entry
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- **Installed Capacity Market Parameters: Proposed Changes**
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# Project Overview

# Background

- **CHPE is a 1,250 MW high-voltage direct current (HVDC) transmission project connecting Hydro Quebec to Load Zone J**
- **CHPE construction began in November 2022, with publicly available information currently indicating an anticipated in-service date of May 2026[1]**
- **NYISO's Installed Capacity (ICAP) market is set up with mostly annual inputs and some seasonal parameters:**
  - The installed reserve margin (IRM) study makes inclusion assumptions for the entire Capability Year, which will generally carry through into the Locational Minimum Installed Capacity Requirement (LCR) study, import rights study and Capacity Accreditation Factor (CAF) calculations
    - Unforced Capacity Deliverability Right (UDR) usage elections are established for the entire Capability Year based on the information provided by UDR holders
  - Demand curves and unit specific derating factors are updated for each Capability Period
- **Once UDRs are awarded and the project is in-service, CHPE can, consistent with the requirements for UDRs, start participating in the ICAP market by offering ICAP into Load Zone J to meet the New York Control Area IRM and the New York City LCR for the 2026 – 2027 Capability Year**
  - To participate in the ICAP market for the 2026-2027 Capability Year, a request for the award of UDRs and election for use of any such awarded UDRs must be submitted prior to August 1, 2025

[1] https://chpexpress.com/construction-progress/

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# New Resource Entry Considerations

- **The assumptions applied to new UDRs, and certain other new resources can impact the inputs for relevant annual ICAP market parameters (i.e., IRM, transmission security limit (TSL) floor values, LCRs, import rights, and CAFs, as well as seasonal parameters (e.g., demand curves and unit specific derating factors)**
  - For the 2026-2027 Capability Year, any new UDRs awarded for the CHPE project and assumptions regarding the usage thereof will impact ICAP market parameters
  - The NYISO is continuing to monitor the progress of the CHPE project and closely coordinating with the New York State Reliability Council (NYSRC) on the IRM modeling assumptions for the 2026-2027 Capability Year
- **Misalignment between assumptions imbedded in the ICAP market parameters and actual ICAP market participation of CHPE UDRs can arise**
  - For example, if the IRM study model includes capacity supplied using CHPE UDRs, but CHPE does not reach in-service and/or commence ICAP market participation until after May 2026
- **Similar alignment concerns can arise with all capacity supply resources (new entry and exit); however, the nature of the CHPE project warrants careful consideration**
  - CHPE is greater than 10% of the Summer 2026 forecasted peak load for Load Zone J; and
  - As a New York City capacity supply resource, assumptions regarding the CHPE UDRs can impact the nature/magnitude of the contingencies considered in assessing transmission system transfer capability into New York City, and the TSL floor value for New York City

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# Potential Impact of CHPE

# Potential Impact of CHPE

- **CHPE modeling is expected to impact certain ICAP market parameters based on preliminary assessments**
  - IRM: Based on a preliminary impact assessment conducted for NYSRC Installed Capacity Subcommittee (ICS),[1] the modeling of CHPE (as an isolated modeling assumption) is not expected to have significant impact on the IRM
    - The prior ICS analysis identified a potential 0.1% increase to the IRM of the 2024-2025 IRM study final base case resulting from the inclusion of CHPE
  - TSL Floor Values for LCR Determinations: The NYISO has conducted a preliminary assessment of the potential impact of CHPE on the previously calculated 2025-2026 TSL floor value for Load Zone J using information from the Q1 2025 Short-Term Assessment of Reliability (STAR).[2] This preliminary assessment has identified a potential increase of approximately 4% to the previously calculated 2025-2026 TSL floor value for Load Zone J
    - The potential impact to the Load Zone J TSL floor value is due to the expectation that the inclusion of CHPE UDRs will change the loss of source contingency analyzed in determining transfer capability into Load Zone J resulting in a decrease in the bulk transfer limits into Load Zone J
    - It is important to note that the Bulk Power Transfer Limit analysis for the 2026–2027 Capability Year has not been conducted yet
  - Other downstream parameters: Given the anticipated impact on the TSL floor value for Load Zone J, other downstream parameters are also likely to be impacted by the modeling of CHPE, including CAFs, import rights, unit specific derating factors, and demand curves
- **It is important to note that the potential impacts described herein are preliminary and intended as illustrative only. The potential impacts of the CHPE project on the ICAP market parameters for the 2026-2027 Capability Year have not been determined yet and will be developed through the remainder of 2025 and Q1 2026**

1. CHPE Test Case in the NYSRC Tan45 Whitepaper
2. Q1 2025 STAR Report (see Figure 57)

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# ICAP Market Parameters: Proposed Changes

# Overview of Proposed Changes

- **For a Capability Year that includes a "triggering resource", the NYISO proposes the development and potential use of two sets of ICAP market parameters (see following slides for additional details)**
  - Triggering resource refers to:
    - a new ICAP supply resource (including new UDRs) whose entry would change the contingencies evaluated in assessing the transfer capability into a Locality for purposes of establishing the TSL floor value for such Locality; and
    - such resource has been included as an ICAP supply resource and assumed to supply capacity in the IRM study for the Capability Year during which such resource first seeks to commence ICAP market participation
  - A single IRM, as determined by the NYSRC, will apply for the entire Capability Year
    - The NYISO's proposal does not affect the NYSRC's annual IRM study and IRM determination process
    - The NYISO's proposal addresses only NYISO-determined ICAP market parameters (e.g., TSL floor values, LCRs, CAFs, and demand curves)
    - Differing sets of ICAP market parameters would only be used if a triggering resource will not commence ICAP market participation for the May delivery month (i.e., the first delivery month of the Capability Year)
  - An alternative set of ICAP market parameters would apply during the interim period until the triggering resource is expected to commence participation in the ICAP market
  - The NYISO will provide advance notice to the marketplace regarding the ICAP market parameters that will be used for May and, if the participation of a triggering resource is delayed beyond May, the timing for any subsequent required change to the effective set of ICAP market parameters
- **Absent a triggering resource, the NYISO shall continue using one set of ICAP market parameters consistent with the current procedures**

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# Proposed Changes

- **For a Capability Year that includes a triggering resource, the NYISO proposes to develop two sets of ICAP market parameters to help improve potential alignment of ICAP market parameter assumptions and actual market conditions:**
  - This is a similar concept to the existing rules that allow two sets of LCRs to be developed to address conditions for new UDR capacity supply interconnecting with a neighboring region with a misaligned capacity year start date (i.e., neighboring market's capacity year does not start May 1)
  - The current rules addressing "dissimilar capacity year start dates" utilize a single IRM, as determined by the NYSRC, and impact only NYISO-determined ICAP market parameters
  - The NYISO's proposal includes a new requirement for a triggering resource to achieve "commercial operation" before submitting the required notice of intent to commence participation in the ICAP market
    - Notice requirement enhancements are intended to provide greater certainty as to the timing for a triggering resource to begin offering in the ICAP market and significantly improve potential alignment of ICAP market parameter assumptions and actual market conditions

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# Proposed Changes (cont.)

- **The two sets of ICAP market parameters would be based off the following cases:**
  1. IRM study results case that assumes the triggering resource is in service and participating in the ICAP market
     - Triggering resource conditions exist only if the NYSRC elects to include the resource as new capacity supply in the IRM study for the applicable Capability Year
     - Consistent with current procedures, the NYISO does not propose to change the status assumptions of any resource in such case (i.e., the resource assumptions approved by the NYSRC and reflected in such case would be maintained)
  2. An alternative case, with the same IRM approved by NYSRC, that revises only the status assumption of the triggering resource to assume that such resource is not in service and not participating in the ICAP market
     - The NYISO does not propose to change the status assumptions of any other resource as approved by the NYSRC and reflected in the IRM study results case (i.e., only the status assumption of the triggering resource would be changed in the alternative case)
     - Alternative case would continue to use and abide by the IRM determined by NYSRC for the applicable Capability Year

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# Proposed Changes (cont.)

- **The NYISO proposes that the following ICAP market parameters would be developed for each case:**
  - TSL floor values and LCRs
  - CAFs and associated unit specific deratings factors
  - System translation factors, Unforced Capacity demand curve parameters, and Load Serving Entity minimum capacity requirements
- **The NYISO recommends that a single case be used to develop the following ICAP market parameters:**
  - Import right limits
  - Peak Load Windows
- **The NYISO is continuing to evaluate the appropriate case to use for establishing import right limits and Peak Load Windows. Considerations include:**
  - Potential use of the case that provides the more conservative outcomes
  - Potential use of the case based on the IRM study results (i.e., consistent with current procedures)
- **The NYISO proposes that both sets of ICAP market parameters be developed consistent with the timing of current practices**
- **The NYISO would need new tariff authority to allow for the potential use of more than one set of ICAP market parameters**

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# Proposed Changes: 2026-2027 Capability Year - Examples

- **Scenario 1: If the final 2026-2027 IRM study model assumes CHPE is not in-service and/or CHPE UDRs are not used to supply capacity:**
  - No triggering resource would exist, and one set of ICAP market parameters based on the case reflecting the results of the IRM study would be used for the 2026-2027 Capability Year (i.e., no change to current procedures)
- **Scenario 2: If (1) the final 2026-2027 IRM study model assumes CHPE is in service and CHPE UDRs are used to supply capacity, and (2) CHPE UDRs are ready for participation in the ICAP market for the May 2026 delivery month:**
  - The NYISO proposes that the ICAP market parameters based on the case reflecting the results of the IRM study would be used for the 2026-2027 Capability Year
  - In this case, a triggering resource would exist, and the NYISO would develop two sets of ICAP market parameters for potential use. The NYISO would provide notice to the marketplace that only one set of ICAP market parameters will be used for the 2026-2027 Capability Year consistent with the expectation that the CHPE UDRs will commence participation for the May 2026 delivery month

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# Proposed Changes: 2026-2027 Capability Year - Examples (cont.)

- **Scenario 3: If (1) the final 2026-2027 IRM study model assumes CHPE is in service and CHPE UDRs are used to supply capacity, and (2) CHPE UDRs are not ready for participation in the ICAP market for the May 2026 delivery month:**
  - The NYISO proposes that ICAP market parameters based on the alternative case assuming CHPE out of service would be used until CHPE UDRs are ready for participation in the ICAP market, at which point ICAP market parameters for the case reflecting the results of the IRM study would be used for the balance of the 2026-2027 Capability Year
  - Consistent with Scenario 2, the NYISO would develop two sets of ICAP market parameters for potential use because a triggering resource exists. Both sets of ICAP market parameters would be used for a portion of the 2026-2027 Capability Year based on the assumption in this example that CHPE UDRs are not able to commence participation in the ICAP market for the May 2026 delivery month
  - The NYISO would provide notices to the marketplace of the ICAP market parameters effective beginning May 2026 as well as the implementation of revised ICAP market parameters
  - The delivery month to implement the revised ICAP market parameters would be consistent with the timing for the CHPE UDRs to commence ICAP market participation as reflected in the required notice

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# Next Steps

# Next Steps

- Continue to discuss proposal in the NYISO stakeholder process
- Continue to collaborate with NYSRC on the assumptions for the 2026-2027 IRM study

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# Questions?

# 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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