Modeling Methods for Existing ICAP Wheeling Transactions in the IRM Study, the LCR Study, and the Import Rights Process

Nathaniel Gilbraith
NYISO Market Operations

NYSRC – ICS
Meeting #216

January 29, 2018
NYISO, Rensselaer, NY

DRAFT – FOR DISCUSSION PURPOSES ONLY

Fundamentals

- **Tie Benefits between Control Areas consist of Emergency Assistance (EA) and Capacity Contracts (Contracts)**
  - Sharing EA results in both Areas reducing the amount of capacity needed as a requirement
  - Contracts aid an Area in its reliability index 'as found', but do not substantially reduce the Installed Capacity Reserve Margin (IRM) requirement 'at criteria'*
- **In New York's models, the sum of the maximum amount of EA plus Contracts equals the Total Tie Capability (TTC)**
  - The IRM is set based on modeling New York's surrounding Control Areas in detail to establish an amount of EA that the neighbors can supply to New York
  - The remaining tie capability is open to the market for external Contracts, pending the deliverability test

* The performance of external resources relative to internal resources can influence the required margin

Background

- **At the September 5, 2018 ICS meeting the NYISO reviewed how it models Emergency Assistance at the Hydro Quebec interface in light of a market participant concern regarding the impact of HQ Wheel of Capacity to ISO-NE**
  - The market participant concern raised is whether the current modeling method creates an overdependence on emergency assistance and suggests reducing the available Emergency Assistance at the Hydro Quebec border by 300MW to account for the approximate historical annual value of the capacity wheel from Hydro Quebec to ISO-NE via New York
  - The NYISO identified potential policy and technical considerations
    - The historic practice of utilizing established, grandfathered rights as the quantity to subtract from TTC as the method to determine the effective emergency assistance values available on the interface
    - There are several different modeling options with various nuances that could be evaluated, including but not limited to whether to increase the ISO-NE emergency assistance by the amount of the capacity wheel
    - Whether or not the wheel is a financial position that does not flow in real time

Background, cont'd

- At the September 5, 2018 meeting, the ICS requested that a sensitivity on the HQ Wheel modeling methodology be incorporated into the 2019 IRM report
- The agreed upon sensitivity was effectuated by decreasing the Emergency Assistance limit at the Hydro Quebec border by 300MW and increasing the Emergency Assistance limit from NE, at the ISO-NE border, by 300MW. The wheel did not 'consume' internal NYCA transmission capability
  - The NYISO performed a full Tan 45 analysis for this sensitivity case and determined the IRM would increase by 0.3 percentage points
  - http://nysrc.org/pdf/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20213/AI%204.1%20-%20FBC%20Sensitivity%20cases[6294].pdf

Purpose of today's presentation

- Discuss the LCR study and import rights considerations if the NYSRC model the HQ capacity wheel in the 2020 IRM base case (I.e., models the 2019 IRM sensitivity case in the 2020 IRM base case)

LCR Study

- Absent a Material Change†, the NYISO's LCR modeling assumptions would be consistent with the IRM modeling assumptions

† https://www.nyiso.com/documents/20142/1408199/LCR_determination_process.pdf/62be259b-dd63-9e6e-ec6c-334f269b90ff

Current process to determine import rights

- **At a very high level:**
  1. The NYISO decreases the TTC until the NYCA violates the LOLE criterion
  2. The difference between the original TTC and the newly found TTC limit is deemed not necessary to meet the LOLE criterion and therefore available for Contracts
  3. The potential Contracts are tested for deliverability and the Import Rights are those contracts that are deemed deliverable
  4. External capacity suppliers can then request those Import Rights as part of the process of selling external capacity into the NYISO ICAP market
     1. Market Participants can request Import Rights are converted into External CRIS Rights (ECRs), which provide for up to 20 years of MP specific import rights.

Import rights and the capacity wheel

- If the NYSRC models the HQ wheel in the 2020 IRM base case, the NYISO would incorporate these changes in the import rights process by modeling the wheel consistent with how other external Contracts are modeled (e.g., Grandfathered Rights, ETCNL, and other FERC identified rights)

Import rights deliverability testing

- In the 2019 IRM sensitivity, the capacity wheel did not consume internal transmission capability
- The same assumption would be made in the NYISO's import rights deliverability test (i.e., assume the wheel doesn't consume internal transmission capability)

Next steps

- **Based on the 2019 IRM technical study sensitivity, the NYISO could support the NYSRC establishing a 2020 IRM base case with the wheel**
  - The modeling method of the wheel would need to be finalized
  - Policy 5, section 3.5.7, would need to be reviewed and possibly updated
- **The NYISO will continue to evaluate reasonable methods of modeling the capacity wheel in the import rights process**
  - The 2019-2020 Capability Year import rights process will not reflect the HQ capacity wheel, as the wheel was not present in the 2019 IRM final base case
  - The NYISO would update the import rights process for the 2020-2021 Capability Year if the wheel is modeled in the 2020 IRM final base case

Questions?

Questions or comments can be sent to

ngilbraith@nyiso.com

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system

www.nyiso.com

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY