Policy 5 Update Consideration:
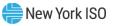## *– Rounding of the IRM*

Yvonne Huang

Resource Adequacy, NYISO

ICS Meeting # 275

March 28, 2023

Background

- During the Tan45 process, regression analysis is performed between the IRM and the preliminary LCRs, to select the anchor point of the 45-degree tangent (i.e., the Tan45 point) to establish the IRM
  - The mathematical process, conducted via MS Excel, yields the precision of 5 decimal point for margin calculation (e.g. IRM of 0.19932 or 19.932%)

- In order to facilitate the implementation in the ICAP Markets, the IRM and LCRs need to be rounded to 3 decimal point or 0.1 percentage point (e.g. IRM of 0.199 or 19.9%)

- Currently, Policy 5 does not contain precision requirement of the IRM. However, the IRM is rounded in practice to provide needed input for subsequent LCR study and ICAP Market procedures
  - The precision requirement is specified for the LCRs in the NYISO's LCR procedure

- To provide consistent guidance, update to the Policy 5 should be considered to include precision requirement and principal on the rounding of the IRM

New York ISO

Illustrative Example of Rounding Practice

- In this example, the regression analysis produces the following IRM and preliminary LCRs

IRM	J-LCR	K-LCR	G-J LCR	LOLE
19.827%	78.221%	107.438%	88.523%	0.1004

  - The regression result represent one point on the Tan45 curves
  - The G-J margin is the corresponding outcome based on the IRM and the margins for J and K

- The following rounded results are produced using different rounding strategy

Rounded Case	Rounding Strategy	IRM	J-LCR	K-LCR	G-J LCR	LOLE
1	Conventional	19.800%	78.200%	107.400%	88.520%	0.1012
2	Round up IRM	19.900%	78.200%	107.400%	88.520%	0.0992
3	Round up J	19.800%	78.300%	107.400%	88.548%	0.0998
4	Round up K	19.800%	78.200%	107.500%	88.520%	0.0997
5	Round up IRM and Round down J	19.900%	78.100%	107.400%	88.488%	0.1001
6	Round up IRM and Round down K	19.900%	78.200%	107.300%	88.520%	0.0999

- **Case 6 is likely to be selected for final rounded results**
  - Except for case 1 and 2, all remaining rounded results produce the LOLE that falls within the targeted range
  - Case 5 would not be selected as its LOLE is on the high side of the LOLE range
  - Case 3 and 4 have IRM rounded down and LCRs rounded up

New York ISO

Proposed Principles for Policy 5

- **NYISO proposes to add the precision requirements in Policy 5**
  - To minimize the disruption of existing Policy 5 language, the precision requirement can be added in Appendix C: Alignment Process

- **The added requirements will specify the precision for LOLE and IRM**
  - Precision for the reliability requirement should be at 0.100 LOLE
  - IRM should be established with three decimal point precision

- **The added requirements will also include principles for rounding the technical IRM results**
  - Following conventional rounding for IRM and preliminary LCRs, if further adjustment is considered, adjusting the preliminary LCR is preferred
  - If adjusting IRM beyond conventional rounding is considered, rounding up the IRM is preferred
  - Additional adjustment beyond the conventional rounding configuration should be limited to +/- 0.1%
  - When selecting the final rounded results, the results that produce the LOLE that falls on the low end of the targeted range is preferred.
    - For example, set A (LOLE = 0.0996) will be selected as opposed to set B (LOLE = 0.1002)

New York ISO

Next Steps

- With inputs from the ICS, the NYISO to work with the NYSRC consultants to draft proposed language updates to Policy 5

- Present the proposed Policy 5 language at the May ICS meeting

- If ICS supports the proposed language, present the proposed Policy 5 language at the following EC meeting for approval

- Finalize the updated Policy 5 by the end of 2023

New York ISO

Our Mission & 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

New York ISO

Questions?

New York ISO