Duration Limited Resource Modeling – *Follow Up Discussion*

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ICS Discussion

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Purpose and Agenda

- The purpose of this presentation is to guide a follow up discussion with stakeholders on the duration limited resource modeling, with the goal to agree on the plan for modeling ELRs in the 2021-2022 IRM

- The following slides will cover:
  - Background on modeling duration limited resources
  - Summary of previous discussion and stakeholder comments
  - Guiding questions for open discussion

New York ISO

Background

- The NYISO has received ELR elections with the effective period starting 2021

- On September 16th ICS meeting, the NYISO presented the two available modeling functionalities in MARS for modeling the ELR
  - Unit types EL3 and EL4 in the MARS model provides the capability of limiting resources availability and energy output; EL4 has the added feature to model charging for energy storage resources
  - These two functionalities have not been used in previous IRM studies

- NYISO proposed to adopt EL3 and EL4 to model the elected ELRs in the Final Base Case of the 2021-2022 Capability Year IRM

- Stakeholders discussed NYISO's proposal and comments are summarized in the next slide

New York ISO

Stakeholder Comments

- **Stakeholders had limited confidence in the modeling accuracy due to the lack of model testing**
  - The tool has not been tested in previous IRM studies and this year's PBC; the modeling concern was specifically around the ELR's dispatch order and pattern

- **Stakeholders also expressed the concern with the unclear magnitude of changes to the IRM modeling, on both the input and the IRM outcome**
  - Especially if the IRM could swing significantly as a result of the ELR modeling

- **Stakeholders noted that having no information about the elected ELRs drives some of the above concerns and the discomfort of including the ELRs in this year's IRM Base Case**
  - Due to data confidentiality, it is unclear if information about the elected ELRs can be shared publicly at this point

- **Due to these concerns, some stakeholders recommended modeling the ELRs as one of the sensitivity cases, instead of including them in this year's IRM Base Case**

New York ISO

NYISO's Position

- It is prudent to be cautious when adopting new tools to model the duration limited resource due to its potential impact on the IRM

- The NYISO considered stakeholders feedback and agreed that it is necessary to have more thorough testing to validate these modeling tools specifically in the IRM analysis
  - The NYISO Planning group has worked with the tools and adopted them in one of the planning scenarios in the 2020 RNA study

- As a starting point, the NYISO believes that having an IRM case with the ELRs modeled with the tool provides value in addressing some uncertainties noted by stakeholders

- The NYISO also followed up on the NYSRC Policy to determine the direction for moving forward with the 2021-2022 IRM Final Base Case

New York ISO

Agenda Item 7.2

Inclusion of new modeling feature for energy limited resources

New York ISO

High Level Test Plan

- As part of the recommendation, the NYISO will develop and implement a test plan on the ELR modeling tools, with purpose of informing the ELR modeling in the next IRM Base Case

- NYISO considers three parts in constructing the high level test plan and welcomes inputs and suggestions from stakeholders

Test Structure	Considerations	Suggestion for Data/Analysis
Inputs	• Develop the agreed upon basecase scenario • Construct a list of changes for the test scenario(s) • Establish general/directional expectation for the results	• Basecase : 2021-2022 PBC vs. FBC • Levels of ELRs (MW) and various duration limitations (4, 6, 8 hrs)
Model	• The model respects energy/duration limits correctly • Dispatch of ELRs is consistent with expectation	• Dispatch orders for each test case • Energy output for each test case
Outcome	• The IRM change aligns with directional expectation • The IRM change is within an expected tolerance range; the changes outside of the range are understood	• IRM outcomes from the test cases compared with the basecase scenario(s)

New York ISO

Next Steps

- The NYISO is targeting the November meeting to discuss the ELR modeling outcome and results from the analysis

- The NYISO plans to continue working on the test plan and to validate the ELR modeling tool; NYISO plans to report back to the ICS when progress is available

New York ISO

Questions?

Roles of the NYISO

- **Reliable operation of the bulk electricity grid**
  - Managing the flow of power on 11,000 circuit-miles of transmission lines from hundreds of generating units

- **Administration of open and competitive wholesale electricity markets**
  - Bringing together buyers and sellers of energy and related products and services

- **Planning for New York's energy future**
  - Assessing needs over a 10-year horizon and evaluating projects proposed to meet those needs

- **Advancing the technological infrastructure of the electric system**
  - Developing and deploying information technology and tools to make the grid smarter

New York ISO

Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit 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 policymakers, stakeholders and investors in the power system

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