



2021 IRM Parametric Study: Updated analysis and results

Nathaniel Gilbraith

NYSRC ICS Meeting #236

September 2, 2020
Teleconference

Background

- **Draft parametric study results were discussed with stakeholders at the 8/5/2020 and 8/17/2020 NYSRC ICS meetings.**
 - http://nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20234/AI%2012%20-%20IRM21_PBC_Results.pdf
 - <http://nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20235/AI%203.0%20-%20IRM%202021%20Preliminary%20Base%20Case%20Parametric%20Results.pdf>
- **These parametric results included a run retiring Indian Point 3 and increasing the UPNY-CONED limit from 6,000 MW to 7,000 MW.**
 - This run showed a decrease in the NYCA reserve margin (-0.7 percentage points) and an increase in the NYC and LI reserve margins (+4.3 and +5.8 percentage points, respectively).
 - This run produced the largest change in requirements of all parametric runs and was the main driver of the final parametric study result (i.e., a lower NYCA reserve margin and higher NYC/LI reserve margins).

	Margin / Impact on Margin		
	NYCA	NYC	LI
IRM 2020 Final Base Case	18.9	83.7	101.8
Topology + Retire IP3	-0.68	4.26	5.76
All other changes	-0.27	-0.88	-2.51
IRM 2021 Parametric Study	17.9	87.1	105.1

Background, cont'd

- The 2021 IRM PBC Tan45 analysis was conducted after the completion of the parametric study. The results of the parametric study and the Tan45 differed substantially and were not anticipated by stakeholders.

Case	NYCA	NYC	LI
2021 Parametric Study	17.9	87.1	105.1
2020 IRM PBC Tan45	20.1	82.7	97.3
<i>Delta</i>	<i>+2.2</i>	<i>-4.4</i>	<i>-7.8</i>

Background, cont'd

- The NYISO agreed to perform additional Tan45 analyses to help stakeholders understand the 2021 IRM PBC Tan45 results, i.e., an IRM of 20.1% and corresponding NYC and LI reserve margins of 82.7% and 97.3%.

Work Performed

- **The NYISO began with the 2021 IRM PBC, returned Indian Point 3 to service, reduced the UPNY-CONED rating from 7,000 MW to 6,000 MW, and performed a Tan45 analysis.**
 - This effectively “backs out” the parametric run that had the largest impact on final parametric study results.
 - A comparison of the 2021 IRM PBC Tan45 results and the case above allows for an “apples-to-apples” comparison of the effect of retiring IP3 and increasing the UPNY-CONED line limit.

Results

- The additional Tan45 analysis demonstrates the combination of retiring Indian Point 3 and increasing the UPNY-CONED limit has minimal impact on locational requirements.

Case	NYCA	NYC	LI
IP3 in-service, UPNY-CONED = 6000	19.6	82.8	97.3
2021 PBC Tan45 (IP3 retired, UPNY-CONED = 7000)	20.1	82.7	97.3
<i>Delta</i>	<i>+0.5</i>	<i>-0.1</i>	<i>0.0</i>

Discussion

- 2021 Parametric Study results, as presented at 8/17/20 ICS meeting

	Margin / Impact on Margin (%)		
	NYCA	NYC	LI
IRM 2020 Final Base Case	18.9	83.7	101.8
Topology + Retire IP3	-0.68	4.26	5.76
All other changes	-0.27	-0.88	-2.51
IRM 2021 Parametric Study	17.9	87.1	105.1
IRM 2021 PBC Tan45	20.1	82.7	97.3
<i>delta</i>	2.2	-4.4	-7.8

- Updated 2021 Parametric Study results, including Tan45 discussed above

	Margin / Impact on Margin (%)		
	NYCA	NYC	LI
IRM 2020 Final Base Case	18.9	83.7	101.8
Topology + Retire IP3	0.5	-0.1	0
All other changes	-0.27	-0.88	-2.51
IRM 2021 Parametric Study	19.1	82.7	99.3
IRM 2021 PBC Tan45	20.1	82.7	97.3
<i>delta</i>	1.0	0.0	-2.0

Discussion, cont'd

- The additional analysis confirms that the parametric study run does not accurately capture the NYCA versus Locality requirement dynamics
- The additional analysis aligns the results of the parametric study and the 2021 IRM PBC Tan45 and confirms the result (i.e., an IRM of 20.1%)

Recommendation

- **NYSRC ICS approve the 2021 IRM PBC Tan45 and present it for approval to the NYSRC EC on 9/11/20**

Next Steps

- **NYISO will work with the NYSRC ICS consultants to complete table 6-1, reconciling the parametric study results and the PBC Tan45 results**
- **Additional Tan45 analyses are being performed by NYISO staff to further support the understanding of the 2021 IRM PBC Tan45 results and will be discussed with Stakeholders at the September 16th ICS Meeting**
 1. Tan45 analysis on the 2021 IRM Parametric with the 2020 FBC Topology + IP3 in service
 2. Case (1) + 2021 IRM updated topology
 3. Case (2) + IP3 retired

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



Questions?