NEW YORK STATE RELIABILITY COUNCIL
INSTALLED CAPACITY SUBCOMMITTEE Notes for Executive Committee
Meeting #189

2017 IRM Study Issues:
    Sensitivity Study Results

ICS prioritized the completion of sensitivity #8 as less important when compared to completing the IRM analysis with its tan 45 and completing the special sensitivity (new) with a tan 45.

A "new" sensitivity arose from topology changes received from LIPA on October 28, which was received significantly after the lockdown of the base case. ICS considered running the new sensitivity without running the tan 45 analysis, but with a 0.7 change in the IRM all but one TO voted for a tan 45 analysis. LIPA's topology will cause reduced transfer limits if planned upgrades to their system are not completed by June 1, 2017. LIPA expressed optimism that the work will be completed on time.

ICS recommended that two sensitivities be run to test the extreme impacts of ISO-NE tariff changes on the NYCA system. Sensitivity 8 has not been completed at the time of this report and was given a lower scheduled priority. Sensitivity 11 shows a reduction in the IRM and increases in the preliminary LCRs when compared to the preliminary base case. The change is due to removing 510 MW from the LHV (zone G) using the contract method and adding back MW due to the LOLE going above 0.1 days in accordance with Policy 5. Since MW are added back throughout the state, MW added to NYC and LI have a larger impact on the LOLE, thus not as many MW were added back to bring the LOLE to 0.1 days.

Case	Description	IRM (%)	NYC (%)	LI (%)
0	**Preliminary Base Case**	18.3	81.9	104.2
	This is the Base Case technical results derived from knee of the IRM-LCR curve. All other sensitivity cases are performed off of this run			
1	**NYCA Isolated**	26.6	87.8	111.8
	This case examines a scenario where the NYCA system is isolated and receives no emergency assistance from neighboring control areas (New England, Ontario, Quebec, and PJM). UDRs are allowed.			

Case	Description	IRM (%)	NYC (%)	LI (%)
2	**No Internal NYCA Transmission Constraints (Free Flow System)**	15.4	NA	NA
	This case represents the "Free-Flow" NYCA case where internal transmission constraints are eliminated and measures the impact of transmission constraints on statewide IRM requirements.			
3	**No Load Forecast Uncertainty**	10.4	76.3	96.9
	This scenario represents "perfect vision" for 2017 peak loads, assuming that the forecast peak loads for NYCA have a 100% probability of occurring. The results of this evaluation help to quantify the effects of weather on IRM requirements.			
4	**Remove all wind generation**	14.4	81.9	104.2
	Freeze J & K at base levels and adjust capacity in the upstate zones. This shows the impact that the wind generation has on the IRM requirement.			
5	**No SCRs & no EDRPs**	15.5	79.3	104.0
	Shows the impact of SCRs and EDRPs on IRM.			
6	**Emergency Assistance limit of 2750 MW**	18.6	82.1	104.5
	This case uses a grouped interface of all NYCA import ties to restrict emergency imports to a level of 2750 MW.			
6a	**Emergency Assistance limit of 2250 MW**	19.0	82.4	104.9
	This case uses a grouped interface of all NYCA import ties to restrict emergency imports to a level of 2250 MW.			
7	**Retire Indian Point 2 and 3 ***	LOLE of 0.87 days/year		
	Starts with the base case and removes the Indian Point Units. The LOLE is recorded. This sensitivity was performed without adding any additional capacity.			
8	**Forward Capacity Market uses all available room (1100 MW) on F-WMA and G-Connecticut interface ties based on the 48/52 % split.**			
	Use the methodology expressed in sensitivity case 13 below to export the total amount of contracts that NE will accept over the ties from zones F and G to New England.			
9	**Retire Ginna and Fitzpatrick and perform a tan 45 analysis (IRM/LCR curve)**	18.8	82.3	104.5
	Remove the two units and create and IRM/LCR curve using the appendix A (Policy 5-10) methodology. Determine the tan 45 values.			
10	**One Ramapo PAR out of service**	18.6	82.1	104.5
	Reduce the tie from PJME to RECO bubble (5018 line) from 1,000 to 500 MW to represent the PAR not returning.			

Case	Description	IRM (%)	NYC (%)	LI (%)
11	**Sale of Roseton Unit using methodology provided by the NYISO.** _**Full Tan 45 Curves and analysis**_	18.1	82.2	104.6
	Use the NYISO suggested IRM methodology where 48% is sourced from zone F and 52% is sourced from zone G to reflect the potential sale of 511 MW from Roseton Unit 1			
new	**Incorporate LI changes as provided on 10/28/16**	19.0	82.9	105.4
	LI-PSEG had provided changes in the topology to the RNA process in late June. These changes were not captured in the IRM and have subsequently been updated.			

Final Base Case Tan 45/IRM (Table below)

The table below shows the step-by-step changes from the preliminary base case to a final base case

ICS did not approve the final base case results due to a NYISO assumption to remove Cayuga from the base case at the end of its RSSA on July 1, 2017. ICS has a long-standing tradition that the topology and information in NYISO's "Gold Book" as of June 1, of the study year be the values for the base case (only authorized assumption matrix changes are permitted). Unfortunately, the reference to the June 1 cutoff date was removed when the prior Appendix C was removed. This June 1 error in removing the date from the policy was addressed by the subcommittee and we determined that the error should not be compounded by changing a long-standing rule and intent. NYISO was asked to run a tan 45 using case number 5. If the EC would like to use the NYISO's recommended retirement of Cayuga, then case 7 provides the new IRM and preliminary LCRs.

Case 2 reflects a change in the load forecast. The approved forecast incorrectly assumed that a generator in an upstate zone was an ICAP provider, however after NYISO fully reviewed the generator's EFORd submittals and operations it was determined that the unit was not an ICAP provider and was serving a host load. Due to that change in status, NYISO amended the load forecast with my approval. ICS had informed the NYIDO, at a prior meeting, that the classification of this generator was important.

Case	Description	IRM (%)	NYC (%)	LI(%)
0	**Preliminary Base Case**	18.3	81.9	104.2
	This is the Base Case technical results derived from knee of the IRM-LCR curve.			
1	Updated uprates to Sithe Independence and Bowline 2	18.4	81.9	104.1
	Reason: Data scrub finding. Update was not included as part of the normal preliminary parametric cases for the Preliminary Base Case (PBC).			
2	ROS units becoming load modifiers	18.2	81.9	104.2
	Reason: Update was not made in time for normal preliminary parametric cases. Approved for Final Base Case (FBC).			
3	Switch on PJM interface tie changed to "yes"	18.2	81.9	104.2
	Reason: Data Scrub Finding. Determined after the PBC.			
4	October load forecast with updated load shapes	18.1	82.4	103.2
	Reason: Normal process to include after PBC. Approved for FBC.			
5	EOP VRs realignment to new load forecast	18.0	82.4	103.2
	Reason: Normal process to include after PBC.			
6	Cayuga Retirements	17.4	82.4	103.2
	Reason: Determined after the normal preliminary parametric cases. Adjustments A-F only.			
7	Tan 45 with above changes (2000 iterations)	17.9	81.3	103.6
	Reason: Final Base Case IRM determination.			

IRM Report Initial Draft – ICS Comments

The report posted for this meeting does not include any IRM information and is incomplete. I will be hand delivering a draft report to the members on November 10. I will also send an electronic version before the meeting, if the information is received in a timely manner (currently expected on Monday 11/7). Due to personal travels, the earliest I can forward an electronic version is Tuesday, 11/8.

Quality Assurance Review Findings

A preliminary review was completed by GE and changes identified by GE have been incorporated. Con Ed and LIPA were not notified of the availability of the masked version in time for our meeting.

Emergency Assistance Model

Al presented and ICS approved the 2017 scope of work for this study.

2017 Assumptions Matrix Update

As of the writing of this report, I have not received a clean version of this report. Changes from the approved matrix include the reclassification of Cayuga and the load forecast.

Locational Export Capacity Proposal: An Update

ICS was updated on the progress and assumptions that are being made by NYISO on the LCR study. First and foremost, the analysis will present a NYISO methodology that follows Policy 5 up and through the IRM process. After that NYISO may show a new methodology for calculating the LCR while maintaining our IRM the LOLE requirement of 1 day in 10 years. If the NYISO wants to pursue changing policy 5, ICS will require a full disclosure of all modeling changes.

Status Reports:
    External Control Area MOUs
        No change in status