

MEMORANDUM

To: Wes Yeomans; NYISO

From: Mark Younger; Hudson Energy Economics, LLC

Subject: NYISO Emergency Assistance White Paper

CC: Emilie Nelson; NYISO
Joshua Boles; NYISO
Henry Chao; NYISO
Dana Walters; NYISO

Date: July 07, 2016

I am writing in response to the NYISO's request for feedback on the Emergency Assistance White Paper ("EA White Paper"). The analysis that the NYISO has performed is a significant step forward in making the MARS analysis more realistic. However, the analysis also raises significant concerns. The NYISO needs to address these concerns in the next couple months (before the fall) and then build upon the work here to have the MARS modeling provide a more realistic representation of our system.

The cancellation of the PSEG/Con Edison wheel

The EA White Paper addresses the changes in topology due to the cancellation of the PSEG/Con Edison wheel on pages 15 – 17. Table 3 on page 17 of the report indicates that even though the cancellation of the wheel resulted in significant changes in the representation of transmission between Southeast NY and PJM, the modeling showed no change in the IRM and LCRs.

To say the least, this is a very surprising result. The NYISO needs to provide additional information to show that this result makes sense and is not instead an indication of hidden problems. I request that the NYISO review and present information on the modeled NYISO internal and external flows to show how flows changed as a result of the revised representation. The only logical explanation that would explain the NYISO's result is that either: 1) the 2016 base case was not utilizing the interface between the LHV and NYC very heavily and therefore the elimination of the wheel merely shifted flows from the Wheel to the internal interface; 2) the elimination of the wheel resulted in more Indirect Energy Assistance ("IEA") – i.e. flowing more power from upstate zones within the NYISO through our neighbors and back into the NYISO; or 3) a combination of the above.

EA White Paper

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If the result was from the LHV to NYC zones being underutilized then that is understandable but if the result is driven in part from increases in IEA then that is very troubling.

Indirect Energy Assistance

The paper notes on page 14 that a significant amount of the reduction in the IRM (and presumably LCRs) is resulting from the modeled level of IEA. As noted in the paper this is troubling as the NYISO does not have any rights to flow power through its neighbors systems and then back into the NYISO. As the EA White Paper notes:

Most of the wheeling of IEA *is assumed* in the GE MARS model to flow over phase-angle regulated interconnections to the Southeast NY (SENY) and New York City (NYC) areas. However, there is arguably no market or operational mechanism under NYISO's tariffs to effectuate this type of wheeling of EA energy. In recognition of this reality, it *may* not be appropriate for the IRM study to use external CA transmission systems to wheel internal NYCA resources to meet NYCA loads using interconnections outside of the internal NYCA transmission system. (EA White Paper, p. 14. *[emphasis added]*)

The NYISO should perform more analysis to understand the reliance on IEA. It is not sufficient to “assume” that it is coming across the phase-angle regulated interconnections. The NYISO should review the analysis and present information on how the flows are changing before and after the EA assumptions.

A related topic that was discussed at the last ICS meeting is that the NYISO is currently modeling the AC interfaces as if the individual lines that make up the interfaces could be scheduled individually. This does not match the way that those interfaces operate and could result in emergency assistance being assumed to be delivered across the AC interface into the LHV when actual operations would deliver the emergency assistance into Zones F and G for the New England interface and Zones A, C, G and, potentially, Zone I for the PJM Interface.

The NYISO needs to change the topology modeling for the AC interfaces to match the flow distribution for the interface as is done for actual operations. The current representation of these interfaces does not comply with the laws of physics and should not be continued.

Level of the EA Limit

The EA White Paper recommends 2,620 MW as the EA limit for MARS. One of the pieces of information that the NYISO provides in support of this limit is the actual emergency assistance available from our neighbors on the top five peak days in each of 2013, 2014, and 2015. The analysis shows that the average available EA during these 15 days was 2,970 MW.

EA White Paper

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As I noted at the meeting, the only days from this chart that are really relevant are the five days from 2013. The “peak days” from 2014 and 2015 are not relevant because while they were the peak loads for those years the loads were substantially below projected peak values. LOLE events are not likely to come on days where the loads are substantially below our 50/50 peak forecast. The amount of emergency assistance on those days should not be a consideration in setting the EA limit for MARS.

The table below shows how the 15 days compare to the peak load forecast for each year.

Date	Integrated Hourly Peak	Forecast Peak	The Amount the Daily Peak Load Exceeds the Annual Peak Forecast
7/15/13 16:00	32,702.9	33,278.6	(575.7)
7/16/13 16:00	32,361.0	33,278.6	(917.6)
7/17/13 16:00	33,253.9	33,278.6	(24.7)
7/18/13 16:00	33,450.4	33,278.6	171.8
7/19/13 16:00	33,955.8	33,278.6	677.2
7/1/14 16:00	29,330.6	33,665.7	(4,335.1)
7/2/14 14:00	29,159.5	33,665.7	(4,506.2)
7/8/14 16:00	28,988.7	33,665.7	(4,677.0)
7/23/14 15:00	28,840.7	33,665.7	(4,825.0)
9/2/14 15:00	29,782.2	33,665.7	(3,883.5)
7/20/15 15:00	30,574.8	33,567.3	(2,992.5)
7/28/15 16:00	30,433.7	33,567.3	(3,133.6)
7/29/15 16:00	31,138.4	33,567.3	(2,428.9)
8/17/15 16:00	30,543.3	33,567.3	(3,024.0)
9/8/15 16:00	31,058.1	33,567.3	(2,509.2)

The average EA available to the NYISO for the five days in 2013 appears to be approximately 2,300 MW and that is the value that the NYISO should be proposing for its EA limit.