NYSRC Installed Capacity Subcommittee

Meeting #102

August 5, 2009

9:30 a.m. – 2:30 p.m.

Meeting Minutes

Attendees

	Present	Tel
Members / Alternates:		
Mr. Curt Dahl (LIPA), Chairman	☒	☐
Mr. Carlos Villalba (Con Edison), Secretary	☐	☒
Mr. Kelvin Chu (Con Edison)	☐	☒
Ms. Hilary Goldman (Con Edison)	☐	☒
Mr. Madison Milhous (National Grid)	☐	☐
Mr. Bart Franey (National Grid)	☐	☒
Mr. Steve Jeremko (NYSEG-RGE)	☐	☐
Mrs. Patricia Caletka (NYSEG-RGE)	☐	☐
Mr. Edward Gilroy (NYSEG-RGE)	☐	☐
Mr. Rajee Mustafa (NYPA)	☐	☐
Mr. Han Huang (NYPA)	☐	☐
Mr. Timothy Bush (Generation Owners)	☐	☐
Mr. Glenn Haake (Dynegy, Inc. - Generation Owners)	☐	☐
Mr. Harry Joscher (PSEG Power, LLC)	☐	☐
Mr. Chris Wentlent (AES-NY)	☐	☒
Mr. Mark Younger (Slater Consulting - Generation Owners)	☒	☐
Mr. Mark Cordeiro (Municipal Power Agency)	☐	☐
Mr. Richard J. Bolbrock (MEUA/NYMPA)	☐	☐
Mr. Rich Wright (CHG&E)	☐	☐
Advisers/Non-member Participants:		
Mr. John Adams (NYISO)	☐	☐
Mr. Peter Carney (NYISO)	☐	☐
Mr. Frank Ciani (NYISO)	☐	☐
Mr. Clyde Custer (NYISO)	☐	☐
Mr. Greg Drake (NYISO)	☒	☐

Mr. Bill Lamanna (NYISO)	☐	☒
Tracy Landers (NYISO)	☒	☐
Mariann Wilczek (NYISO)	☐	☐
Ms. Erin Hogan (NYSERDA)	☒	☐
Mr. Ed Schrom (NYPSC)	☐	☐
Mr. Glenn Haringa (GE Energy)	☐	☐
Mr. Gary Jordan (GE Energy)	☐	☐
Mr. Al Adamson (Consultant)	☒	☐
Mr. Frank Vitale (Consultant)	☒	☐
Mr. John Pade (Consultant)	☐	☐
Mr. Arthur Maniacci (NYISO)	☒	☐
Yannick Vennes (HQ)	☐	☒
Scott Leuthauser (Consultant for H.Q. Services)	☒	☐
Khatune Zanna (LIPA)	☐	☒

Guests Present:

Mr. Robert Boyle (NYPA)	☒	☐
Mr. Frank Francis (BEMI)	☐	☐
Mr. Sam Krueger (Dynegy, Inc.)	☐	☐
Mr. Alan Ackerman (Customized Energy Solutions)	☐	☒
Mr. Paul Gioia (NYSRC)	☐	☐
Mr. Chris De Graffenried (NYPA)	☐	☐
Dr. Roy Shanker	☐	☐
Liam Baker (US Power Gen)	☐	☐

1. **Review of Meeting Minutes**

- A few changes made to conference call # 44 meeting minutes
    - Item 1.2.7 removed from minutes – added after the meeting.
    - Item 1.8 on Forced and Partial Outages – changes made to the statements made at the meeting about the potential impact of a non-compliant unit on the 5 year historical outage rates for the upcoming 2010 IRM study.

- Item 1.9.4 – 1. 9.7 – wording and meeting minutes changes about SCR performance factor modeling – justification and recommendation to use 80% of the 92% previous used for SCR performance for the upcoming IRM study.

- Con Edison to re-circulate revised conference call 44 minutes and meeting 101 minutes to the group.

2. Action Items

Closed

89-4. The NYISO did verify that the 2002 hourly load shape was adjusted for the EOPs, load management programs, voltage reduction, and zonal outages. Curt Dahl recommended going forward, according to Policy 5, the ICS specify that we use a reconstituted load shape (new action item 102-1).

95-3. Con Edison and NYISO reached a collaborative agreement on the methodology of deriving the LFU curve. The results of both models are very close and yield close results. Arthur mentioned he would like to conduct a sensitivity analysis this year for the 2010 IRM using LIPA's and Con Edison's LFU to see the effects from changes in the temperature ranges included in the models (made into an new action item 102-2).

Carlos Villalba commented that the model is very sensitive to slight changes in parameters and very unstable and Carlos suggested that we continue to investigate if there is a better methodology that has been developed at this point.

Decision made to take Con Edison's LFU model for 2010 IRM because of the following reasons: 1. The NYISO and Con Edison agreed on the methodology used; 2. The NYISO and Con Edison's model yield very close results; 3. Con Edison has responsibility to serve load and should be responsible for load forecast; and 4. There currently exists no set methodology to develop an LFU model. Arthur Maniaci agreed to use Con Edison's LFU model for the 2010 IRM study.

However, going forward, this issue should be brought to the LFTF group such that the NYISO and the TOs work together to develop a procedure to model LFU for future IRM study years. For 2011 IRM study and beyond, NYISO and TOs will develop and approve a model prior to bringing it to the ICS to include in the IRM study.

97-3. Comments on the external ICAP paper. There was a decision to stay with the existing methodology of derating the ties to model external contracts. However, it was requested that a sensitivity be done for the 2010 IRM study to examine the effects of modeling the contracts as contracts, not derates (new action item 102-3)

100-1. Bill Lamanna did rebuild and coordinated with the IESO, HQ, and Ontario to create MARS topology.

100-4. This item is closed because we decided that we are going to model contracts as tie derates, not as physical contracts.

101-3. Completed. Bill Lamanna went through updated topology map during today's meeting.

101-5. Curt Dahl did talk to Paul Gioia and confirmed that we do have to do another upstate downstate study for January 2010.

101-6. The roster update is completed.

101-7. Discussed at today's meeting and completed.

New

102-1. After the NYISO verified that the 2002 hourly load shape was adjusted for the EOPs, load management programs, voltage reduction, and zonal outages, the ICS recommended going forward that it's specified (with accordance to Policy 5) that a reconstituted load shape is used in the study (new action item 102-1).

102-2. TOs and NYISO to work collaboratively together with the LFTF group to develop a procedure to model LFU for future IRM study years. For 2011 IRM study and beyond, NYISO and TOs will develop and approve a model prior to bringing it to the ICS to include in the IRM study and Policy 5.

102-3. Request made to the NYISO to add a sensitivity study to the 2010 IRM study to examine the effects of modeling the 2010 external contracts (1080 PJM; 1090 from HQ; 50 from NE), not as tie derates, to see the effect on the model.

102-4. Request made to the NYISO to circulate the proposal on modeling the renewable sold from C, D, and E (about 716 MW) to New England's FCM. NYISO recommended that they model these renewable sales as 2 contracts – one for Hydro resources and one for Nuclear resources because of difference in availability factors. For Hydro, Greg Drake proposed to take MW from zone C and for the nuclear export, take those MW from that particular zone where the unit is located. ICS group asked Greg to circulate his methodology to the group and include in assumption matrix.

102-5. ICS needs to determine a methodology for removing generation from zone J (including Astoria East generation bubble) when generating the IRM/LCR curve in the 2010 IRM study.

102-6. Upstate/Downstate Study to be completed again to complete 3 year study.

Revised

66-2. Due date changed to 8.20.09. Carlos Villalba and Con Edison asked NYISO representatives to come to Con Edison headquarters to work on the automation of the curve.

1. **Reliability modeling of proposed Canadian wheel of 700 MW of capacity contracts/sales from New York To New England**

1.1. ISO-NE forward capacity market documentation shows about 700 MW of wheel through power through NYCA from HQ to NE

1.2. Greg Drake proposed to the committee that the 716 MW (ICAP) forward capacity sales committed to the 2010 New England Forward Capacity Market (FCM) from NYCA be modeled as two separate contracts – see new action item 102-4. Greg to circulate the modeling proposal to the group and add to the assumption matrix.

1.3. Yannick Vennes circulated the public document on the Forward Capacity Market contracts ISO New England website. Shows that New York has two major suppliers of renewables to New England in the 2010 FCM: Erie Boulevard Hyrdopower and NYPA.

1.4. Bart Franey voiced concern that external wheels that occupy internal transmission capability within NYCA can reduce NYCA reliability to provide economic benefit for outside areas. If these external wheels are modeled as contracts using internal NYCA ties, Bart stated that NYCA's reliability could be degraded. For example, an external wheel through will occupy internal transmission capability and an internal zone with excess generation can't support a zone with a generation deficiency because the wheel may be blocking it. Additionally, modeling internal (NYCA) FCM sales via contracts makes sense because they are accounted for correctly – generation is reduced in the area of the sale and added to the external area. Bart raised the issue as to how we are going to accurately model resource reduction in external areas in accordance with Policy 5.

1.5. Greg Drake issued a statement indicating how the NYISO has previously modeled these types of transactions/sales from external areas. He said that the NYISO has previously modeled external contracts or wheels by not subtracting from the external area's capacity. The rational is that these external transactions are set up or modeled for NYCA reliability studies to deliver an amount of emergency assistance that NYCA is comfortable with according to Policy 5, and the decision has been made to net out the effects that external contracts may have on capacity in neighboring pools to NYCA. Therefore, the LOLE of neighboring pools will not change.

1.6. This issue led to a discussion about the grandfather contracts from HQ (1090MW), which could also lead to a wheel through. Yannick Vennes and Greg Drake discussed that some of the 1090 MW from HQ could be exported to PJM and NE (thus creating a wheel through) – could be up to 300 MW.

1.7. Greg Drake and the NYISO proposed that to act conservatively in our 2010 IRM model, we should include a potential external wheel contract from HQ to NE and PJM (approximately 150 MW from HQ to NE and 150 MW from HQ to PJM) to accurately model the topology and determine the reliability of NYCA.

1.8. Yannick Vennes stated that HQ did not have a wheel through for 2010-2011 to NE or PJM, so he didn't agree with this assumption. However, he suggested that to be more conservative, we should model all 300 MW to NE through Central East.

1.9. ICS decided to model the 300 MW potential wheel-through from HQ (technically Chateauguay) to only NE through Central East instead of modeling the external wheel through contract as 150 MW to NE and 150 MW to PJM.

1.10. The 300 MW wheel through from HQ to NYCA to NE will be internally modeled proportionally to the transfer limit of the existing 3 ties.

2. Review of Forward Capacity Market IRM Study report

2.1. Status is ICS is working on this and FCM study is not finalized yet.

3. Last Review of Forecasted Wind/Renewable projects for 2010 IRM Study

3.1. This was discussed in the 2010 IRM study assumption matrix discussion.

3.2. Erin Hogan and Greg Drake finalized the forecasted wind/renewable projects for 2010 IRM study.

3.3. Approximately 305.5 MW of additional wind resources were added to the model for 2010.

4. 2010 IRM Study Assumption Matrix

4.1. <u>Peak Load</u>

4.1.1. Al Adamson requested that the assumption matrix include that the initial base case runs are conducted with the preliminary forecast or GOLD book forecast.

4.2. <u>Load Uncertainty Model</u>

4.2.1. In assumption matrix, included statement that NYISO and ICS accepted Con Edison and LIPA LFU model proposals. Also, included that NYISO collaborated with TOs and ICS to develop LFU model using TO's submitted data.

4.3. Existing Generating Unit Capacities

4.3.1. Suggestion that the NYISO includes the 2009 Gold book unit's capacities compared to the updated DMNC test values that go into the model.

4.3.2. Carlos Villalba to confirm on Riverbay capacity value. Question about whether or not Riverbay is an SCR or ICAP provider for this current year – Carlos and Greg to both look into this question and report back to the ICS.

4.4. Solar Resource Modeling

4.4.1. Debate over whether the 65% is an accurate capacity factor because PJM uses a much lower capacity factor (about 35%).

4.4.2. Greg Drake commented that 65% capacity factor is accurate according to reviewed data.

4.5. Combustion Turbine De-rates

4.5.1. Curt Dahl requested that a more specific value for the temperature correction curves or derate be included in the assumption matrix (i.e. in MW derate per degree)

4.6. Environmental Impacts issue

4.6.1. Al Adamson suggested that the statement under the Recommended Assumptions is the actual study results, not the assumptions. Mark Younger suggested that the assumption matrix state that it's assumed that RGGI and NOx will have no effect on 2010 study as long as NOx implementation time frame is over a 5 year period under the Recommended Assumptions section.

4.6.2. Greg Drake discussed how the NOx implementation time frame could potentially affect the IRM study if it's implemented in a two year period instead of a 5 year period. The time frame of implementation is still unknown at this point in time. Therefore, the NYISO is proposing to conduct a scenario or sensitivity if the NOx RACT rule is implemented in a 2 year time frame.

4.6.3. Attachment F (white paper) still needs to be included if available.

4.6.4. Mark Younger suggested that the real issue is whether or not the NOx RACT rule will require compliance by summer 2010. He suggested to state

- in the assumption matrix - that the 2010 IRM base case assumes that any forthcoming NOx RACT rule will not require compliance by summer 2010 and therefore will not effect available capacity. Then the sensitivity analysis can be performed assuming some compliance will be required by summer 2010 to see the effect of reduced capacity due to GT non-compliance.

4.7. Proposed New Units

4.7.1. Discussed finalized wind units and attachment B1 (Renewable Generating Projects (Wind) for Inclusion in 2010-2011 Installed Reserve Margin Study

4.7.2. Erin Hogan suggested removing the "contract capacity value" column and only keeping the new nameplate capacity.

4.7.3. Additionally, Greg Drake and Erin Hogan reconciled the data in Attachment B1 and found that 305.5 MW of additional new wind capacity will be modeled.

4.8. Special Case Resources

4.8.1. Reviewed the methodology for forecasting SCRs for 2010 in attachment G. Again, this year, a 20% growth was applied to July 2009 SCR MWs (based on an average 3 year growth trend).

4.8.2. The amount of SCRs modeled (in UCAP) was determined using the methodology in Attachment G-1. This year the NYISO will use an additional de-rate factor for SCR UCAP modeling of 80%. An 80% de-rate is applied to the APMD value (UCAP value) based upon previous historical SCR performance. The second factor is based on the analysis that compares the CBL method to the APMD method.

4.8.3. Basically, the ICAP value is reduced by 92% according to the APMD method to get the SCR's UCAP availability. Then another 80% is applied to the UCAP value to obtain the effective UCAP value for SCR's availability based on historical performance.

4.9. External Capacity Purchases

4.9.1. Decided we will model grandfathered contracts (50 MW from NE, 1080 from PJM and 1090 from HQ) as tie de-rates instead of actual contracts.

4.9.2. The sensitivity will model these grandfathered contracts as contracts in MARS model, not tie de-rates to see if there is any impact on the reliability assessment or IRM study.

4.10. EOPS

4.10.1. Greg Drake to list the totals from last year compared to this year for EOPS (except SCRs and EDRPs) in the assumption matrix.

4.10.2. Group reviewed and agreed upon the EOP values.

4.11. New Transmission Capability

4.11.1. Bill Lamanna called in to discuss the revised 2010 IRM topology.

4.11.2. Tie between HQ and Ontario (Udoway Tie) is undergoing some testing to see the impact of HQ and Ontario system limitations, both for facilities around that tie and potential limitation in the Ontario system, to determine what the correct transfer capability is of this line. As it reaches our border, NYISO is looking at what nomograms may be needed on the NYCA interface between HQ and Ontario. The full capability of the tie is limited by some system configuration and/or outages or commitments. The floor capacity is about 600 and the maximum capability is 1250MW.

4.11.3. Ontario to Zone A tie was reduced from 1450 to 1325 based on the latest summer operating study. There have been no updates in the assumptions of this study since it was documented and released. Thus, NYISO is assuming that there have been no steps to mitigate reductions in tie line capacity from Ontario to Zone A caused by outages involving a transformer in Ontario. Therefore, the tie capability was reduced to 1325 for the 2010 IRM study.

4.11.4. From HQ to Zone D, the first contingency incremental transfer capability limit is 1500 MW (physical limit on the system). The model will act conservatively by modeling a 300 MW external capacity wheel-through that may wheel capacity from HQ to NE. However, the 1500 MW tie capacity will not be reduced in accordance with NYCA's operating rules to model the 300 MW wheel through contract. Under a capacity emergency, we will not cut the 300 wheel through from HQ to NE. With the 1090 grandfathered contract external capacity from HQ into NYCA, it's assumed that firm imports from the HQ area are actually 1090 minus 300 MW.

4.11.5. UPNY/SENY – limit increased from 5150 MW to 5250 because changes to NE system (more reinforcements), which causes less loop flow on Leeds-PV circuit

4.11.6. Astoria Generation Bottled – utilize the bubble created in the past for fault duty. Since then, the fault duty issue was mitigated, but going forward, NYISO will utilize this bubble in the model as a capacity bottle (no load as modeled) to model changes in Con Edison system, primarily some increase of load.

4.11.7. When shifting generation, Carlos Villalba suggested that when removing generation from zone J, remove the bottled capacity from Astoria Generation bubble first. Remove approximately 300 MW out of approximately 1720 MW of generation from Astoria capacity bubble because this is the excess bottled generation. Thus, the transfer capability from Astoria East capacity dummy zone is 1420 MW. The amount of un-bottled generation in Astoria East capacity bubble should be used to determine the minimum generation requirement for zone J.

4.11.8. Suggestion to call the capacity bubble Astoria East generation since we were talking about generation at Astoria East complex only.

4.11.9. Bill Lamanna and Greg Drake to discuss this topology off line and come back to the group with a collaborative topology and modeling methodology. Needs to be given to Curt Dahl by this Friday August 7th to submit to the Executive Committee.

4.11.10. ICS committee suggested it isn't correct to remove bottled generation from Astoria East Generation complex first for curve generation. Suggestion to remove generation proportionally throughout zone J. Curt Dahl suggested we revisit how to remove generation from zone J for the IRM/LCR curve generation next month (new action item 102-5).

4.11.11. Dunwoodie South interface should have been increased from 4000 MW to 4025MW in the topology presented by Bill Lamanna during this meeting.

4.11.12. Bill Lamanna also mentioned that he made some updates to the nomograms in Zone K as well as some updates to make to the New England interfaces. Curt Dahl again requested it by Friday (August 7th) to submit to the EC.

4.11.13. Bill Lamanna to improve the VFT model (second page of Topology Attachment E - the PJM-NYCA Mars Model Diagram).

4.11.14. Bill Lamanna clarified that the line from PJM East to VFT (800 MW limit) and from VFT to J (max transfer capability of 800 MW), this accounts for 300 from the VFT and 500 from the A-line (Linden/Goethals part of the ABC wheel). The VFT is represented as separate from Linden Cogeneration. Linden Cogeneration is modeled in zone J as a radial connection. Bill Lamanna will make this diagram clearer such that it shows that the PJM East to VFT line and VFT line to J includes both the VFT and the A-line.

4.11.15. Mark Younger suggested separating A-line from VFT line. Thus modeling PJM East to VFT as 300 MW and representing the A-line from PJM east to J (500 MW) and show a interface cross limiting at 800 MW. Bill Lamanna indicated he could do that for graphical representation, but for modeling, there exists an issue with implementing this in MARS. In MARS, you can't put a unit nomogram on a joint grouping. There can only be one interface between two bubbles in MARS.

4.11.16. Correction identified that VFT to J nomogram – the minimum should be 200. Thus the nomogram should be 800/320/200.

4.11.17. Next discussed were the flows out of Ramapo South. From Branchburg to Rampo there exists a 500 KV tie from PJM worth about 1000 MW. What's critical is flow south of Ramapo – flow out of Ramapo helps provide load to RECO and provides J and K lines (part of PJM wheel). In the past we derated the tie capability from PJM East to G to 500 in order to get delivers into B and C lines into J. Studies indicate that to get deliveries into J, we can't back off flows to Wardwick line to less than 500 MW into PJM 230 kV system.

4.11.18. PJM East to Dummy Zone 400 MW comes from Roseland section lines.

4.11.19. The reason for the Dummy zone was because there was a concern given the 230 kV network in PJM and the requirement to make deliveries into Waldwick. This dummy zone eliminates any potential for power to loop around and by pass Rampo to get to zone J.

4.11.20. The dummy zone in PJM will have no load or generation – it's just a summation zone.

4.11.21. Curt Dahl requested that Bill Lamanna provide this updated topology graph to Greg Drake and Curt prior to Friday afternoon.

4.12. Transmission Cable Forced Outage Rates

4.12.1. Con Edison and LIPA to finalize data and send to NYISO (Greg Drake) as soon as possible.

4.13. UDRs

4.13.1. Mark Younger found some public information on the web on LIPAs potential UDR contracts. Mark sent this information to Greg Drake and Greg will disclose to the ICS members. This helps to better estimate the UDR contract amounts.

4.14. Outside World Area Models

4.14.1. Greg Drake added into the assumption matrix that the NYISO will update outside areas load forecasts, assuming they have been reduced since last information was received (similar to NYCAs revised load forecast downwards).

4.14.2. Loop Flow – Curt Dahl asked that the application of the loop flow switch in MARS be defined. He suggested including in the assumption matrix that the loop flow switch prevents the wheeling of neighboring control area deliveries in and out of NYCA when in the "no" position at least at first. In the first pass, everyone tries to help themselves on an isolated basis. In the second pass, reserve sharing occurs between neighboring regions. In the third pass, all restrictions open up and there is full reserve sharing. Mark Younger suggested that we simplify the explanation in our assumption matrix on why loop flow switches are in the "no position" by stating that this prevents replying upon neighboring control area transmission until the model has addressed reserve sharing within NYCA. This also provides outside areas the same reserve sharing priorities, restrictions, and benefits.

5. Other

5.1. 2009 IRM MARS database for LIPA and Con Edison based on "Information use Agreement" to perform selected incremental assumption changes.

5.2. Review Roster – completed and updated.

6. Next Meetings:

September 2, 2009 – Meeting#103

September 30, 2009 – Meeting#104

November 4, 2009 – Meeting#105

November 30, 2009 – Meeting#106

Meeting #102 – Minutes from August 5th, 2009, 9:30am – 2:30pm.

Secretary: Carlos Villalba

Prepared by: Hilary J. Goldman

(Con Edison)
