

NYSRC Installed Capacity Subcommittee

Meeting #156

January 28th, 2014

10:00 a.m. – 3:00 p.m.

Meeting Minutes

Attendees

	Present	Tel
Members / Alternates:		
Mr. Curt Dahl (LIPA), EC Vice Chairman	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Yuri Fishman (LIPA)	<input type="checkbox"/>	<input type="checkbox"/>
Ms. Kathune Zannat (LIPA)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Rich Wright (CHG&E)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Luting Pan (Con Edison)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Gregory Chu (Con Edison), ICS Vice Chair/Secretary	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mr. Kelvin Chu (Con Edison)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Syed Ahmed (National Grid)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mr. Bart Franey (National Grid)	<input type="checkbox"/>	<input type="checkbox"/>
Mrs. Patricia Caletka (NYSEG-RGE)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Edward Gilroy (NYSEG-RGE)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. John Tighe (NYSEG-RGE)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Richard Brophy (NYSEG-RGE)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Robert Boyle (NYPA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mr. Andrea Fossa (NYPA)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Bradley Kranz (NRG Energy, Inc.)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Chris LaRoe (IPPNY)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Mark Younger (Hudson Energy Economics, LLC.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mr. Mark Cordeiro (Municipal Power Agency)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Michael Mager (Couch White, LLP)	<input type="checkbox"/>	<input type="checkbox"/>
Advisers/Non-member Participants:		
Ms. Erin Hogan (NYSERDA), ICS Chair	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mr. Peter Carney (NYISO)	<input type="checkbox"/>	<input type="checkbox"/>

- Mr. Frank Ciani (NYISO).....
- Mr. Dave Lawrence (NYISO)
- Mr. Greg Drake (NYISO).....
- Mr. Bill Lamanna (NYISO)
- Ms. Mariann Wilczek (NYISO)
- Mr. Steve Lemme (NYISO)
- Mr. Ed Schrom (NYPSC)
- Mr. Nicholas Occhionero (NYPSC)
- Mr. Al Adamson (Consultant).....
- Mr. Frank Vitale (Consultant)
- Mr. John Adams (Consultant)
- Mr. Arthur Maniaci (NYISO)
- Mr. Scott Leuthauser (Consultant for H.Q. Services)
- Mr. Henry Chao (NYISO)
- Mr. Howard Tarler (NYISO)
- Mr. Wes Yeomans (NYISO).....
- Mr. Paul Gioia (NYSRC)
- Mr. Dana Walters (NYISO)
- Ms. Donna Pratt (NYISO)
- Mr. David Allen (NYISO).....
- Dr. Kai Jiang (NYISO).....
- Mr. Mark Walling (GE)
- Mr. Gary Jordan (GE)
- Mr. Glenn Haake (NYPA).....

Guests Present:

- Mr. Charlie Shafer (AES)
- Mr. Dean Ellis (Dynergy)
- Mr. Jim D'andrea (Transcanada)
- Mr. Alan Ackerman (Customized Energy Solutions).....
- Dr. Roy Shanker
- Mr. Phil Fedora (NPCC).....
- Mr. Arvind Jaggi (NYISO)
- Mr. Frank Francis (Brookfield)

Mr. Ruben Brown (The E Cubed Co.)	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Randy Wyett (NYISO).....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Timothy G. Lundin (Customized Energy Solutions).....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Jim Scheiderich (Energy Curtailment Specialist).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Rick Roby (Dynergy).....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Shaun Johnson (NRG)	<input type="checkbox"/>	<input type="checkbox"/>

1. Action Item – Export Modeling

Chair Erin Hogan (NYSERDA) mentioned that she spoke with former Chair Curt Dahl (PSEG-LI) regarding this particular action item and he said he needs to review an archived presentation to the Executive Committee. Mr. Dahl said he has some conversation with ISO-NE before but could not recall the exact details. Howard Tarler (NYISO) mentioned that he will check and get back to the group.

Former Chair Bob Boyle (NYPA) stated that while the NYISO planning process on this topic may eventually be understood, we also need to make sure that the ISO-NE is also planning their system the same way to avoid modeling mismatch.

2. Action Item – Voltage Reduction Duration Limitation

Gregory Drake (NYISO) stated that he checked back with operations and he discovered that the tests are 15-minute tests, and there’s no information collected on the duration limitation.

Chair Hogan checked with technical department back in her organization and they explained that most of the inductive load, which includes appliances like a refrigerator, would expect no deterioration of the voltage drop.

Mark Younger (Hudson Energy Economics) mentioned that while the frequency of voltage reduction may be of interest, the real concern is how long the voltage reduction can be maintained. The model is treating the voltage reduction as a

resource that's capable of providing 4-5 hours of load reduction, and he's not sure if that's true.

Vice Chair Gregory Chu (Con Edison) stated that based on his findings, Con Edison was able to enact voltage reduction for 2 days in the middle of 2013, specifically targeted for Staten Island.

Chair Hogan stated that with the inductive load at a lower voltage, the resistive loads, such as a water heater, will have to run longer to accomplish the same amount of work. The reliability effect is minor.

Mr. Younger asked if the appliance will work less efficiently with a lower voltage. Chair Hogan's understanding is that the inductive load would do the same amount of work, but resistive load will need to work for a longer period.

Mr. Younger mentioned that if equipment can make a quick correction when voltage drops, then the short 15-minute tests are showing the right results since the tests have accounted for the correction.

Frank Vitale (NYSRC – Consultant) stated that resistive load still exist and the benefit of voltage reduction has been decreasing over the year to about 50%. This is reflective of the technology improvements.

Kathune Zannat (PSEG-LI) said she will check with Yuri Fishman for his comments.

Vice Chair Chu said that the question we seemed to be driving towards is really similar to the fatigue factor of SCR. He questioned, however, if this is the right venue to carry on that type of conversation because if we feel that voltage reduction testing needs to be changed to provide a reliable measure of the amount of assistance we can get on a peak day, something may need to be done to change the testing process. Chair Hogan said that perhaps a derate is sufficient to address this problem.

Mr. Boyle asked perhaps it is more appropriate to delegate this to the person responsible for the voltage reduction test results in the NYISO, instead of Vice President Wes Yeomans (NYISO).

Mr. Tarler suggested that perhaps Mr. Drake could be the point person to find out more information. Mr. Boyle said that Mr. Drake reports to Dana Walters (NYISO) so perhaps Mr. Walters is a more appropriate person than Mr. Yeomans.

Dr. Kai Jiang (NYISO) said that the two concerns boil down to how fast can voltage reduction respond and how long voltage reduction can last. Dr. Jiang stated that the speed of response is very important in modeling since the hours that are in deficient will be depending on these VR MWs. Dr. Jiang also mentioned that since Vice Chair Chu mentioned that VR can be made available for 2 days, the amount of MWs from the testing can be guaranteed. We can instead now focus on the question of VR response time. Dr. Jiang said that VR is actually governed by a protective relay. The relay responsible for voltage reduction compensation would normally act extremely fast. It is automatically executed.

John Adams (NYISO) said that perhaps it is better to ask the people who do the testing about whether the tests are sufficient to gauge the amount of MW we can rely on during the time of need. Vice Chair Chu commented that he already checked with the people who performed the voltage reduction test in Con Edison and they are not only comfortable with the amount of MWs they can achieve for the 15 minute test (for 3%, 5% and 8%), moreover the person further stated that “there are no limits to lower voltage for an extended period of time. Voltage reduction stays in effect based on system conditions.”

3. 2015 IRM Study Milestone Schedule

Mr. Drake said that in February, the NYISO develops the topology from transmission owner inputs, and then presents it to TPAS for review. His suggestion is to strike TPAS from this and a couple other locations in the schedule, since TPAS doesn't prepare it but provides feedback and concurrence. Chair Hogan suggested adding “bring to TPAS for review” in May milestones.

Chair Hogan suggested adding a line at the March meeting “ICS to determine if white papers are needed”

After other minor changes, the milestones schedule has been accepted by the ICS and it will be presented to the Executive Committee for approval.

4. 2014 Lessons Learned

Chair Hogan said that the lessons learned are the same as the points listed in the Chair’s report to the EC. The list is to provide a frame work for discussion since all the major points were covered. The general consensus of the members is that nothing new needs to be added. Chair Hogan then asked if there are additional comments about the list. Mr. Adamson would like to review it further before the EC meeting. He was wondering if this is an EC document or is this just an ICS internal document. Chair Hogan said that it is for ICS only and Mr. Adamson said he’ll review and provide comments by the end of the week.

5. 2015 IRM Assumptions Matrix

Mr. Drake said that like in the past, the assumption matrix gets updated with various information throughout the year as they become available. The gold book is a crucial part of the matrix update and that should be available in April. Load Forecast Uncertainty also gets updated later on. He asked that transmission owners provide any project information/update to group if possible.

Chair Hogan asked if the NYISO normally reaches out to the TOs to get more updated information about projects, rather than just using the gold book information. Mr. Drake said that is correct.

Mr. Drake briefly did a page turner and discussed the parameters that would be updated. He asked if the members have an issue about using 2013 wind shape, Chair Hogan recommended that the NYISO should put together some data to

show to the members to determine if 2013 wind shape is still appropriate. Mr. Adams said that the 2013 data should be available on the PI system by now. The NYISO will present the shape at the April ICS meeting for members' review. **(AI 156-1)**

Chair Hogan said that she will bring back to the group a table about solar project for members' consideration since solar in general has gotten more significant in size. Mr. Drake said that the project list should be given to Arthur Maniaci (NYISO) for peak load forecast. Mr. Younger is concerned that we would take out solar component from the load forecast to begin with since it is net load. He recommended that we should check with Mr. Maniaci about how solar and other public policy items that affect loads gets into the load forecast to ensure we are not double counting the MW benefits in our model.

Vice Chair Chu asked if the NYISO would consider this time to incorporate the option of generating wind shape randomly. Mr. Drake said that it will not be considered for this year's IRM study.

Mr. Boyle asked if the NYISO has gathered sufficient amount of wind data to calculate forced outage rates to apply to the wind generators. Mr. Drake responded that since distinct states are needed to model outages, and wind units can have a large amount of intermediate states, this may be an inaccurate way to model wind generation. Instead, he recommended that we should continue to model those units as an hourly modifier.

Mr. Drake asked the members to bring any possible future contracts to the NYISO for the assumption matrix. Some of the discussion involved the deliverability of the contracts, which Chair Hogan would like the NYISO to check back to ensure what is modeled as a contract is not in conflict with the ability to deliver that power.

Mr. Drake asked about whether we should continue to model EDRP since it is so small. Chair Hogan recommended that we should continue to maintain the historic trend. Mr. Younger wondered if the EDRP participants are actually actively responding to events. Perhaps, he thought, in a real event their load just

happened to be lower than the baseline, and they were paid for that participation. Mr. Boyle said that Mr. Younger can submit a request for a study/investigation online. He stressed that even though it is a small number, nonetheless they exist to support the system. David Allen (NYISO) stated that since this is a voluntary program, a small fraction of the entire group of participant would be responding, not all. Mr. Allen said that Donna Pratt (NYISO) can discuss EDRP effectiveness possibly before May. **(AI 156-2)** Mr. Adamson said that if it is an EOP step, it needs to be in the model, even if it is 1 MW. Chair Hogan concurs, along with several other ICS members.

6. PJM SCR modeling

Mr. Drake said that the PJM SCR modeling will be a modeling change. Chair Hogan said that if modeling change is necessary, a white paper will probably be necessary as well. She asked what information the NYISO will be presenting on the PJM SCR modeling, between now and March meeting. Mr. Drake said that the NYISO will provide information on the modeling limitation at the March meeting.

Mr. Adamson asked the fundamental question if we want PJM SCR to support us. Mr. Walters said that in the past, we removed external EOPs because they were small. He thinks it is worth revisiting now because the amount of EOP has changed significantly, along with the way they deploy them. Mr. Boyle said that the NYISO should provide some recommendation for the modeling change. Mr. Walters said the NYISO will explain this in detail. Mr. Younger thinks this need to have a white paper. Mr. Boyle thinks this will need to be a sensitivity case first. Chair Hogan agrees but we need more information first about the scope of the study. Jim Scheiderich (ECS) asked if we've ever modeled it in the past, and was there a white paper that removed the EOP in the first place. Chair Hogan said that we never included EOP in the first place. Mr. Scheiderich then asked why we need a white paper to include the EOPs. Chair Hogan explained the mechanism of having the white paper to deal with major changes to the model that we have now. Mr. Younger explained that this was not modeled as a sensitivity case last year because the model was not capable of modeling it accurately, without

calling all 8000+ MW at once. He further stated that even the way to model this has not been discussed, thus the white paper is needed.

Mr. Adamson is concerned about NYCA relying on EOP from other areas for reliability. He also mentioned that if this can be agreed upon and implemented by April, we may still be able to use this for this year's IRM study. Finally, Mr. Adamson wondered why we are only applying this to PJM, not to all the other areas. Mr. Boyle agreed and has asked the NYISO to provide some insight to include all areas' EOP. Vice Chair Chu wondered if CURRENTLY the NYISO is supposed to look at other areas like ISO-NE. Chair Hogan said that for now, it is more appropriate to look at PJM FIRST, since it would be a major undertaking on its own. Syed Ahmed (National Grid) mentioned that information gathering for PJM and NE has been completed last year. Chair Hogan then asked the NYISO to keep in mind that this NYISO proposed modeling technique would apply to other areas as well.

7. Transmission System Outage Scenario (TSOWG)

Mr. Younger stated that there were email communications about running possible sensitivity cases for the possible white paper. He mentioned that Chateaugay line has some data of approximately 1.1% outage rate that can be modeled to see the effect. Chair Hogan asked if the goal is to see if modeling outages on these lines would have a meaningful impact on the IRM. Mr. Younger added that the study will also focus on how to model the outages if we decided it is necessary.

Mr. Adamson said that the working group was still working on this topic and the consensus was that to develop a scope by the next ICS meeting. He mentioned that we will probably model this, if needed, for next year's study. However we have not met as a group. Vice Chair Chu stated that a scope is crucial because it will identify what we are looking for as a working group, at the same time identify what we need in order to model these outages and who will be doing the work. Chair Hogan stressed that we need to do this before March ICS meeting. Mr. Adamson stated that if we decided that we need to model these outages, then

we wouldn't be including this in this year's IRM study anyways due to the sheer technical complexity of the issue. Vice Chair Chu echoed that this year we would be spending the majority of the time studying this issue, and next year we can consider implementation at the earliest. Mr. Ahmed asked to be included in the email chain as a part of the working group. He also agreed that this year should be a feasibility study year for this topic.

8. IRM Study Process Manual

Chair Hogan said that she will be working with a smaller group to develop an outline for the manual. This manual will capture all of Frank Vitale's (NYSRC – Consultant) tasks due to his impending departure, in addition to all the other possible tasks that makes up the IRM study.

Mr. Adamson suggested that perhaps this manual can be added to the appendix of Policy 5, but Chair Hogan wondered if that would make changes harder to accomplish because the EC will need to approve any changes to Policy 5 materials, including the appendix.

9. 2014 LCR Study

Mr. Drake said that zone J's LCR decreased from 86 to 85%. He said that upward pressure came from poor SCR performance and higher forced outage rates during time of high demand. The new load shape and increase transfer capability from VFT coupled with additional PJM assistance available provided the downward pressure that help lowered the LCR by 1%. Zone K's LCR went up from 105 to 107% because of less of assistance from ISO-NE, lower SCR response, and reduced availability of the fleet. The multiple load shape helped a little, but not enough to offset the upward pressures for zone K.

When Mr. Adamson asked what assumptions were changed from the final IRM model, Mr. Drake said that only the peak load forecast was changed.

Chair Hogan asked if the comments about the LCR process documents were incorporated in the document posted on the ICAP website. Mr. Drake did not believe so.

10. Monte Carlo Error Analysis

Mr. Boyle was concerned that the distribution was not symmetrical unless a larger number of iteration is performed. Mr. Drake said that the graph seemed to show symmetry, at least for the 17% IRM result. Mr. Ahmed said we got be sure at least the standard error has been achieved first. Then and only then do we have the luxury to consider the minimum number of iterations to perform. Mr. Ahmed also wondered if the assumption of normal distribution is justified.

Upon hearing the Mr. Boyle mentioned that the NYISO has performed a 5000 iteration run, Chair Hogan would like the NYISO to come back to discuss this at length. Dr. Jiang mentioned that Mr. Boyle requested the 5000 iteration himself. Chair Hogan and Mr. Younger asked that the NYISO should circulate the result of the 5000 iteration run to all ICS members. Dr. Jiang said that the white paper will address this and more. The paper will detail how confidence interval was obtained, why there are 2 different confidence intervals, and finally the minimum number of iterations necessary. Dr. Jiang stated that the 0.1 LOLE that we are so familiar with, is not a deterministic value, but rather it is the mean value and not of a single individual simulation result. We just need to make sure the mean value will satisfy the reliability criteria.

Vice Chair Chu asked at the end, along the same line as Mr. Ahmed's statement, if the NYISO has considered performing statistic tests to ensure normality and to include those tests in the paper. Dr. Jiang said that there are no simulations that we can know, for sure, the exact distribution of the results. Thus an assumed distribution is typically used in studies, reliability or otherwise. Dr. Jiang mentioned that the paper currently does not address the assumed normal distribution. Mr. Drake said from the past model, there has been no signs of the distribution being anything other than normally distributed.

Finally, Mr. Ahmed stressed strongly that we need to ensure the error band is covered first, which is more important than the number iterations.

11. Certification of Reliability Rule on IRM Study

Mr. Adamson said every 3 year RCMS requires the NYISO and others who are responsible for satisfying the reliability of rule of “performing annual study for IRM”, to certify that the study is done annually and correctly. We, the ICS, needs to certify that we’ve prepared the IRM study in accordance to the reliability rule, by March RCMS meeting. Mr. Adamson would provide the write-up for review at the March ICS meeting. **(AI 156-3)**

Secretary: Gregory Chu

(Con Edison)

Next meetings:

Meeting 157, Wednesday, March 5th at NYISO HQ
Meeting 158, Wednesday, April 2nd at NYISO HQ
Meeting 159, Tuesday, April 29th at NYISO HQ
Meeting 160, Wednesday, June 4th at NYISO HQ
Meeting 161, Friday, June 27th at NYISO HQ
Meeting 162, Tuesday, July 29th at NYISO HQ
Meeting 163, Wednesday, September 3rd at NYISO HQ
Meeting 164, Wednesday, October 1st at NYISO HQ
Meeting 165, Tuesday, October 28th at NYISO HQ
Meeting 166, Monday, December 1st at NYISO HQ
