

Meeting Minutes

**New York State Reliability Council - Installed Capacity Subcommittee (ICS)
Meeting #256 – January 5, 2022
Teams / NYISO**

Attendees **Present** **Phone**

Members / Alternates:

- | | | |
|---|--------------------------|-------------------------------------|
| Brian Shanahan (National Grid) ICS Chair | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Noor Leghari (NYSEG/RG&E) ICS Vice Chair / Secretary | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Rick Brophy (NYSEG/RG&E) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Rich Bolbrock (Unaffiliated) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Clay Burns (National Grid)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Ruby Chan (CHG&E)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Sanderson Chery (Con Edison)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| John Cordi (NYPA) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| John Dellatto (PSEG LI)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Jim Kane (NYPA) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Howard Kosel (Con Edison)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Mike Mager (MI) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Chris Wentlent (MEUA)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Rich Wright (CHG&E) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Mark Younger (Hudson Economics) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Khatune Zannat (PSEG LI) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Advisers/Non-member Participants:

- | | | |
|--|--------------------------|-------------------------------------|
| Alan Ackerman (CES)..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| John Adams (ICS Consultant) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Leen Almadani (CHG&E) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Leonard Ashley (IPPNY) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Josh Boles (NYISO) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Andrea Calo (CES) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Nelson Eng (Con Edison) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Adam Evans (DPS) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Grant Flagler (Con Ed Energy) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Ricardo Galarza (PSM Consulting) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Nate Gilbraith (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ying Guo (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chris Hall (NYSERDA).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Karl Hofer (Con Edison).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Erin Hogan (UIU)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Yvonne Huang (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Eduardo Ibanez (GE Consulting)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Scott Leuthauser (HQUS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tim Lundin (LS Power)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Randy Monica Jr. (DPS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Scott Nevins (DPS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Otito Onwuzurike (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ben O'Rourke (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Kevin Osse (NYISO).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Carl Patka (NYISO).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Laura Popa (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Richard Quimby (DPS).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sushil Silwal (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Zack Smith (NYISO).....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Max Schuler (NYISO)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mariann Wilczek (PSEG LI)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

1. Roll Call – R. Brophy

- Roll call was conducted.

2. Introduction and Request for Additional Agenda Items - B. Shanahan

- No additional agenda items were requested.

3. Approval of Minutes for Meeting #255 – B. Shanahan

- Meeting Minutes approved with comments.

4. Review of Action Items List – B. Shanahan

- 220-1: Mr. Shanahan thinks this might be an ongoing request from the EC to the TOs. He will raise the issue at the next EC meeting to get clarification on how to treat this action item going forward.
- 233-1: On our list of potential white paper topics. Some discussion on defining the scope and what elements should be included in the model. There was support for taking this

off the list, once we have something defined or a very clear need to define something we can put it back on the list. Will close this action item and move it to the future discussion/white paper topics list.

- 249-17: #12 – the AC transmission runs is on the whitepaper list and NYISO is on track for February 2022. #11 – modeling the GT shutdowns and the series reactors going back into service is supposed to be in process now.
- 253-1: Actual completion later than January in 2022. NYISO has done the preliminary work. Mr. Shanahan will modify the due date.
- Current White Paper Topics (For 2022)
 - SCR Modeling: Mr. Shanahan will update this.
 - Mr. Shanahan decided to skip forward to Agenda item #9 (see below).

5. Chair update on recent EC actions – B. Shanahan

5.1. Update Status on Public Appeal Questions for TO's (AI 220-1)

- Received responses back from all the TOs. No one has a load reduction event in their area in 2021 except for PSEG LI.
- PSEG LI estimated that 73.6 MW of load reduction was achieved as a result of the Public Appeals on 8/13/21. They explained the methodology they used to get that MW number along with additional details in their responses to the other questions in the survey.
- 80 MWs is used in the IRM study for PSEG LI load reduction. Group discussed whether we should continue to use 80 MWs or something less, most members had no issue with continuing to use 80 MWs, however, PSEG LI said they would take the question back and discuss internally to see if that number should be changed. Will report back to ICS.

6. Proposed Rule Change from Reliability Rules Subcommittee – PRR 149 – B. Shanahan

- ICS members reviewed and discussed the proposed rule change. The EC is looking for ICS feedback.
- The change being proposed does not intend to change the way we calculate LOLE in practice for MARS or how we calculate the IRM today. It is simply to clarify the way the IRM is calculated for the IRM study.
- Mr. Bolbrock said that he wasn't sure 7-R.2 was necessary because we do that now. He thought there was a down-side to including it because if the EC wants to change something such as the reporting requirement or some other change they would need a formal rule change to do that.
- Mr. Patka asked if the intent of the rule was to also apply this requirement to all resource adequacy analyses including the RNA and CRP or whether it is only aimed at the IRM/LCR calculations. Mr. Gilbraith said he read it as a rule applying to the IRM, he does know that NYISO planning staff (Z. Smith and L. Popa) have been involved in discussions on this. If there are parallel rule changes related to RNA he suspects they are in the loop on this. Ms. Popa said that they provided input to the RCMS. She said that the NYISO already calculates those other indices for the RNA and CRP and that they are provided for informational purposes only, not much change there.

7. High Renewables Phase 3 Draft Study Scope – K. Osse

- Mr. Osse provided an overview of the study to the ICS.
- Mr. Younger found that the study assuming no traditional generation retirements was problematic. He did think that by doing it per the scope makes this Phase 3 study comparable to what we did in Phase 2, which was good in that it lets people see the impact

of greater amounts of solar and storage. However, he was concerned that there will be a significant amounts of retirements and that will have an effect when you take out units with 90-95% availability that shifts the average EFORd for the state as a whole. He is concerned that it will be a major factor that will also be driving things in the future. He is fine with the basic run being done with no change to existing resources, but to be realistic he thinks we need to do something like take out all the GTs targeted to be gone by 2025 and then take out another 5,000MWs of maybe the oldest steam units in the system. We should do that run so people understand what kind of impact that will have. Mr. Osse said the NYISO could not commit to pursuing that during the course of this study. They could consider it as a task outside the scope of this study – something they can and should address in the future. NYISO will take it back and discuss internally and report back to the ICS. Mr. Younger is concerned that the results of the study as-is might mislead people.

- Mr. Shanahan had a similar concern in that if we are doing the study to look at 2030, accurately representing what 2030 looks like, if the CLCPA goals are met, would be useful. He is concerned that we get an as accurate as possible look at this future state as long as we are going to study it – we know these retirements are going to happen. He said that if this is going to be used to inform people of future state impacts this retirement scenario would seem to be a realistic part of it.
- Mr. Leuthauser suggested that the units removed from the study (i.e. retired) could be selected according to the amount of pollution they put out (i.e. high emitting) in addition to the targeted GTs. He said that however the units are selected for removal he is in favor of doing the additional analysis.

8. Review of IRM Milestone Schedule for 2022 – B. Shanahan

- Updated the meeting and milestone target dates for 2022.
- None of the milestones were changed from last year.
- ICS approval of the schedule will take place at the February 3rd meeting.

8.1. Model Changes / Improvement Initiatives

- Nothing to report.

8.2. IRM Task List for 2022

- Consists of what we discussed in the milestone schedule, action item list, and future topics.

8.3. Policy 5 Revision Needs (if any)

- None identified.

9. 2022 White Paper / Study Prioritization Topic Discussion - B. Shanahan / N. Gilbraith

- High Renewables Phase 3 Study
 - An EC request, on this year's list, will be completed mid-year.
- Investigate EOP Call Sequence effects on MARS results
 - Mr. Bolbrock suggested a name change such as "Align MARS EOP calls with expected/allowable EOP calls." Under that would be investigation of the sequence, additional mechanisms, etc. This is a bigger task than the current title would suggest.
 - Mr. Shanahan ask Mr. Gilbraith if this was something that the NYISO would work on as a separate issue or if it is something that should be looked at during the course of this year's IRM study. Mr. Gilbraith said if they could do some work in advance, they have made progress in aligning EOP calls with expected numbers, that would help

them out but he wasn't sure about adding that stress in during the process to be adding an on-the-fly change in their modeling methods for this year's study.

- Y49/Y50 Outage Rate sensitivity
 - Completed
- ELR Modeling Improvements
 - Mr. Shanahan wasn't sure this was a white paper since we've already done a lot of work on it. The NYISO has some minor clean-up work on what we will be using in this year's study. NYISO's recommendation is to continue to work on ELR enhancements and we will look at the again in this year's model run. When we feel confident enough that it is reflecting results in a stable manner and accurately then we would incorporate it into the actual IRM study.
 - Mr. Gilbraith said it was their hope that they incorporate the enhanced modeling in the study, also spend a couple years working on and refining the model which would be presented as a memo or a presentation highlighting the additional enhancements included in the NYISO's final recommendations.
 - Ms. Huang noted that the last white paper where we laid out our vision for ELR modeling is what has been done for the near-term. She believes that in the longer-term where you have increasing saturation of ELR units and other changes on the system the ELR modeling will need to evolve. There needs to be ongoing monitoring of what is going on and what other changes we make to the modeling.
 - There was agreement that tracking should be done on two levels – what will be done for this year's study and what to expect in the long-term. Mr. Shanahan will add this to the action item list and as a future topic.
- Mr. Mager suggested that we prioritize the white papers where the results that may be incorporated into the next IRM study would be at the top of the list. It would be better to get those done earlier in the year.
- Maintain necessary operating reserves during load shedding events
 - The NYISO has observed during recent load shedding events in other control areas (e.g. California) the grid operators were not able to fully deploy their reserves for various reasons. The way the IRM study is modeled today it assumes that every last MW of reserves would be able to be deployed prior to having to shed load. Based on other control area experiences the NYISO is not certain that is the right assumption to be making. They would like to initiate a review of that assumption and intend to bring back a scope next month identifying how New England looks at the issue along with some relevant reliability rules that could impact this review and discuss whether we should update the IRM modeling assumptions to maintain some operating reserves during load shedding events based on grid conditions and reliability rules.
 - There were differing opinions regarding how critical an issue this would be in the NY control area but there were no objections to looking into this.
- Perform Tan45 with AC Tx in-service and DEC NOx Rule Peakers retired
 - This was discussed at the Executive Committee.
 - Mr. Younger thought we should look at the peaker retirements and the series reactor change together – the two are related. Mr. Gilbraith said they are working on it and noted that even though the series reactor change was not noted in the description it is included in the analysis.
 - The different case descriptions were clarified.
 - Some discussion as to whether this was an ICS issue or an ICAPWG issue.
- Load Shape Phase 2

- This is in progress, NYISO hoping for a recommendation in a white paper in this study cycle. Mr. Gilbraith's goal is to have an up/down set of recommendations going into May for the preliminary base case for this year.
- Mr. Schuler, NYISO Load Forecasting group, explained that the primary purpose of the Phase 2 LFU analysis was to analyze recent historical load shapes and load duration curves and then make some recommendations for updated load shapes to be used. His group has performed much of the analysis looking at the historical load shapes, focusing on 2012 through 2020 since in those years they have estimates of historical BTM solar. The analysis is ongoing and they are coming up with their recommended load shapes. There will be some analysis of the impact of those new load shapes. The NYISO will present their analyses at stakeholder meetings over the next couple of months.
- Background Load Forecasting Task Force presentations re BTM Solar: [Impact of Behind-the-Meter \(BTM\) Solar on Load Forecast Uncertainty Models](#), [BTM Solar Load Duration Curve Impacts](#)
- Mr. Younger argued that we need to adjust the 2023 load shapes to include estimated 2023 BTM solar levels to get valid load shapes. Mr. Schuler said that they have the capability in the load shapes they are compiling to provide either the gross MWs with solar added back and the adjusted MWs where the solar that is based into the shapes that can be reflected of which ever forecast year they want. If they want the 2023 solar level they can adjust the historical shapes to match what they would have been assuming 2023 solar capacity levels in the load shapes.
- Mr. Evans discussed a couple concerns he's had in the past and continues to have. He understands there are two steps in the process for the IRM, one is scaling across all 8760 hours the other is applying LFU in addition to that. He explains that what we have seen in the past from the GE analysis on ELRs is the combination of the load scaling and applying the LFU across all hours can produce some instances where you have very high loads for long periods of time that we have never seen in reality, e.g. 10 hours of 35,000+ MWs load. Mr. Evans asked the NYISO if they looked at that issue and whether it makes sense to scale previous load shapes across all 8760 hours. He wondered if this would not be an issue with the new load shapes. He thinks this issue is an important in two ways: whether or not the IRM we're setting makes sense and is accurate and having reasonable data to set capacity accreditation values. This is important for the IRM and capacity accreditation.
 - Mr. Schuler said that in their analysis they do see in the load shapes representative of upper bins peak day temperatures they have a steeper load duration curve. The analysis also showed a lower variation in the load duration curve as you go down the ranked hours. There is a certain variability in the peak hour and as you go along further into the 100th, 200th, 300th hour there is less variability. There is less of an extreme bandwidth of loads as you go down to the less extreme hours. He indicated they could do some additional analysis on the questions raised by Mr. Evans.
- Will keep this on the future work list if any issues raised continue to exist after the recommendations based on the current work come out.
- Enhance Maintenance Scheduling in MARS
 - Mr. Gilbraith noted that MARS was not scheduling maintenance against EOP activations it was scheduling maintenance against LOL events. It would schedule maintenance during times when it would coincidentally cause EOP activations and

- those EOP activations would ultimately resolve for LOL events. There was no impact on reliability metrics like LOLE but there was an impact on the number of EOP calls.
- NYISO did some preliminary analysis last year, shifting the maintenance manually and were able to cut EOP calls substantially. It is an iterative manual process where you make each change to see the impact on the reliability metrics and EOP calls – it takes a lot of time and a lot of effort.
 - The NYISO would like to engage GE this year, have had some preliminary discussions with them and believe they will be able to help NYISO develop some tools or processes to allow them to schedule maintenance during periods where it is not causing LOL events and it's not causing EOP calls.
 - This could fall under MARS modeling improvement rather than as a white paper.
 - Future topic discussion: Evaluate limits on EOP activations
 - This dovetails with the earlier EOP discussion. This hasn't been explored to-date but has been eluded to in some ICS discussions – why it's included as a future topic.
 - Because of the complexity of the issue it was suggested that it be keyed-up at the EC for some initial discussions. The NYISO said that they would like the EC's input on this issue.
 - Mr. Shanahan said his intention is to come up with a list of white papers for this year, bring it to the ICS, and have a vote on it at the February meeting. His initial list is:
 - High Renewables Phase 3 Study
 - Investigate EOP Call Sequence effects on MARS results
 - Maintain necessary operating reserves during load shedding events
 - Referring back to Mr. Mager's earlier comments, Mr. Gilbraith said there were three items that he felt would have the potential to have a direct impact on the outcome this year's IRM study in terms of the LOLE and IRM:
 - ELR Model improvements
 - Maintain necessary operating reserves during load shedding events
 - Load Shape Phase 2

10. Additional Agenda Items

- Mr. Shanahan noted that there is a study with an environmental focus coming out of the Executive Committee that will be presented at February's ICS meeting.

Next Meeting

Meeting #257 – Wednesday, February 2, 2022, 10 am – Microsoft Teams