

# Summary of June 2021 Joint Board/MC Discussions

## Summary of Main Points | Emilie Nelson

### Topic 1: Supporting Resource Adequacy through the Capacity Market

- Accreditation rules are viewed as critical to more accurately reflect the reliability value that existing and newer technologies and resources offer to the grid.
  - Accreditation of specific types of resources should be revisited frequently enough to capture improvements in technology, but the rules for evaluating resources should provide certainty and avoid unnecessary volatility.
  - Also need to consider how to set requirements that will support reliability and protect consumers from paying for requirements that don't fully reflect the contribution of resources to reliability.
- The capacity market should compensate for the attributes needed on the grid.
  - We no longer live in a world where all MW are equivalent. The capacity market is a blunt instrument and it may be necessary to consider attributes beyond resource adequacy, such as operational flexibility.
    - Additionally, some believe that the capacity market should potentially compensate for attributes sought by public policy.
  - The capacity market may need to evolve in order to keep pace with changing technologies and reliability needs, to ensure that resources are properly compensated for the reliability value they offer.
  - Some believe that the capacity market is stronger in terms of retaining existing resources than incenting investment in new resources. Certain resources, such as demand response and energy storage, will require capacity revenues to fully emerge and contribute towards reliability.
- Mitigation reform is a high priority. There is a need to act quickly and to achieve changes through a 205 process. However, it is important to include the necessary market design elements associated with resource accreditation and other necessary concepts in the short term, while taking more time to work through more complex design elements.
- Timing is important. There is a need to work through significant market design changes quickly given the pace of change expected on the grid.
- Getting resource accreditation right is necessary but not sufficient in terms of market enhancements.
- Energy and Ancillary Services markets must continue to evolve. The concepts included in the Grid in Transition work plan must be pursued. A focus on more granular market signals is important.
- Ensuring resource adequacy while addressing broader reliability and resiliency needs may require changes that go beyond the capacity market. Efforts such as addressing physical infrastructure vulnerabilities and integrating advanced grid technologies are also part of the going forward solution.

## Topic 2: The Role of Emerging Technologies

- There is significant value in the NYISO's system planning studies to help identify future gaps as the system changes and greater levels of renewables supply New York's energy needs.
  - Scenario analyses are helpful in understanding future reliability needs. NYISO should consider a broad range of planning scenarios to accommodate different build-out scenarios, and to further consider the impacts of climate change.
  - Understanding how reliability needs translate into market products is important to enable financing of future projects.
  - Reliability standards should not be compromised.
- Consider how existing processes, such as the demand curve reset process, can support technological innovation.
- Understanding the costs associated with the grid in transition, in addition to system needs, will be useful in further encouraging the development of new technologies to support reliability and public policy.
- Although there is recognition that the markets must value attributes rather than specific technologies, many see the NYISO as having an important role in considering how technologies may develop.
  - Flexible load resources will be critical to managing the demands of the future grid.
  - Distributed resources will play an important role and need to be well coordinated between the bulk transmission and distribution systems.
  - The development of strategies to best integrate offshore wind and consideration of how interregional coordination can support offshore wind development and integration should be an area of focus.
- Transparency is essential to well-functioning markets and to incent emerging technologies.
- There is an incredible amount of change that needs to be managed and it is important to ensure that the right processes and staffing are in place to meet the demands.
- NYISO should expand its efforts to communicate about future system needs. NYISO must:
  - Continue to be the purveyor of facts and information.
  - Focus on raising policymakers and legislators awareness of expected future needs.
  - Continue outreach through multiple communication channels.
  - Obtain input from and communicate with a broad base of interested persons and entities outside/beyond the NYISO's formal stakeholder process.

## Summary of Main Points | Aaron Breidenbaugh

### TOPIC 1: Supporting Resource Adequacy through the Capacity Market

(The words below are Aaron's effort to capture the broad themes stated by multiple parties and groups. Unique positions and opinions were omitted for brevity.)

#### General Observations

There was apparent universal support for market-based approaches. No participant expressed an interest in returning to Integrated Resource Planning (IRP) and long-term or Reliability-Must Run resource contracts. However, participants recognized that's where we may end up if markets can't meet the needs. Some expressed a sense of urgency that New York State may step in if NYISO doesn't move quickly, though the State may be focused on Buyer-Side Mitigation (BSM) issues.

No one wants to be TX or CA. NYISO should report on the structural differences between it and ERCOT. Several (but not all) participants attributed ERCOT failings to its lack of a capacity market.

There appears to be significant consensus that NY will be better off if it is proactive and does not wait for FERC to mandate changes.

#### Key Points – Specific Areas

##### What is the goal?

What do we mean by "capacity?" Do we really mean "resource adequacy" and is that an end or the means to the end? What is the end we are trying to achieve?

Capacity is a means or part of the means to the end of reliability and resiliency, but not an end in itself.

All MWs are not created equal. Resources with flexibility, short start-up times and short minimum run times are more valuable to the system in terms of reliability. The benefits of/need for resource flexibility will only increase over time.

##### What are the pieces of the solution?

Capacity – Necessary but not sufficient.

- Most seem to believe that the capacity market is essential, but also that it can be a blunt instrument. No support was evidenced for going to an energy-only construct. There will still be "missing money" for essential flexible resources after Energy and Ancillary Service payments and carbon pricing. Capacity and/or other mechanisms will be necessary to provide the necessary compensation.
- The proxy plant used to develop the capacity demand curve may need to be revisited along with the Cost of New Entry (CONE). It may not make sense to insist that the proxy be a unit that cannot be built or that will not be permitted to endure given stated policy constraints limiting fossil fuels.
- Capacity Issues and Priority

- Buyer Side Mitigation: Must eliminate tension between state policy and market rules or FERC will do it for/to us.
- Accreditation: Universal agreement that accreditation of resources/technologies will be a vital component.
  - Predictability is important but infrequent accreditation changes could mean big price swings over the course of several years. Significant support for frequent (annual) updates.
- Short-Term: BSM and Accreditation. Significant sentiment that these need to be addressed together.
- Medium-Term: Additional studies may be needed, and possibly new metrics developed in response to determine what a winter-peaking, intermittent, decarbonized future grid will require. Longer peaks? Multiple peaks? What will the availability of imports look like as neighboring regions decarbonize as well?
- Long-term: Develop and implement changes to reliability standards, market design, and planning processes to meet these new needs in time.

#### **Energy and Ancillary Services – Necessary but not sufficient.**

- Rules and pricing, as well as shortage pricing are key. Reforms may be necessary to bolster Energy and Ancillary Services' role, but there was not consensus on what the reforms should be.

#### **New Products – Necessary?**

- Do we need new products/revenue sources, or are Capacity, Energy and Ancillary Services enough? Will those (plus, perhaps, carbon pricing) buy us the flexibility we need? Many parties believe that new products may be necessary (e.g., fast start, ramping).
- Should consider new products akin to capacity to provide revenue to resources as needed and value attributes such as capacity that can respond quickly (as opposed to capacity that requires hours or days to start-up and respond) or capacity that can provide longer duration energy (24 hours vs. 2/4/6 hours of storage).
- No clear consensus that co-optimizing reliability and clean energy goals (e.g., Forward Clean Energy Market or Integrated Clean Capacity Market) can or should be pursued.

#### **Transmission – Necessary but not sufficient.**

- We need to get power from where it is generated (upstate and offshore) to where it is needed. Transmission will be a key component. However, elimination of all constraints would still leave us with output variability issues.
- New ties to adjacent control areas could increase reliability and some suggest there should be incentives for constructing or enhancing such ties.

#### **Carbon Pricing – No clear consensus.**

- Not an end in itself, but possibly a part of the solution. There seemed to be significant agreement that, if pursued, carbon pricing should be economy-wide.

#### **Flexible Load – Necessary but not sufficient.**

- We know we will need enhanced flexibility to accommodate intermittent generators, and we know load can help provide it. Demand Response (DR) is currently an emergency resource,

and participation has been declining. What can the NYISO, and New York Public Service Commission do to elicit more non-emergency load flexibility? Time-of-use rates, perhaps with something like PJM's [Price Responsive Demand](#) product?

**Distributed Energy Resources – Maybe not necessary but probably inevitable. Not sufficient.**

- Distributed Energy Resources (DERs) could play a major role, but it is not clear yet whether the approved rules will attract participation. To some, renewable DERs are part of the reliability problem, not the solution. Whether DERs are part of the “problem” or are part of the “solution” will depend on rules we make now.

**Tools**

Do we have and/or are we using the best tools to assess future reliability needs? For example, marginal reliability valuation has been put forward by the external Market Monitoring Unit, Potomac Economics.

Reliance on a limited set of renewable resources could limit diversity and open New York to common-mode failures. Do we know how to analyze and mitigate these risks?

Are new reliability standards needed? There was substantial agreement at the recent FERC Technical Conference on climate change that the one day in ten-year standard is obsolete. ISOs and utilities have a significant role to play at NERC. The NYSRC has a role to play as well.

**Costs**

Costs need to be visible to customers (transparent) and actionable to change behavior. There is a risk that Ancillary Service costs are hidden (and unavoidable) in uplift.

Moving quickly to what we will need in 2035h, risks imposing costs that may not be needed in 2025 or 2030. Moving too slowly also presents risks.

**Technologies**

Given the policy constraints, there is a question as to whether we can preserve reliability with existing/available technologies and, if so, what financial incentives are needed to get new resources deployed when and in the quantities required. If not, the question is what can we do to make it clear to policymakers that the timing constraints need to be relaxed to provide the required technology sufficient time to develop?

**NYISO's Role**

Apparently universal agreement that NYISO is and needs to continue to be the source of unbiased expert information.

The NYISO needs to continue to be the advocate for Resource Adequacy in New York State's Climate Leadership and Consumer Protection Act (CLCPA) and other forums (e.g., legislative). Discussion evidenced significant support NYISO's advocacy efforts on CLCPA and the New York Department of Environmental Conservation's Peaker Rule.

Imports of CLCPA-compliant capacity should be allowed. NYISO currently does not allow capacity imports from intermittent renewables or battery storage facilities, but by 2040 these will be the capacity imports that are relevant.

**Aaron's Global Summary Encompassing All Summaries (Aaron, Chris and Emilie)**

1. BSM and resource accreditation need to be addressed quickly and together.
2. Markets need to compensate the services and capabilities that are needed to provide reliable service (“not all MW are created equal.”)
3. New products, especially on the Energy and Ancillary Services side (e.g., flex and ramp), may be needed.
4. Carbon pricing has a lot of support to be part of the solution, but skepticism remains.
5. Load flexibility needs to be increased, possibly through greater price transparency.
6. Market rules need to incent DERs to be part of the solution and not another part of the problem.
7. Import rules and ties to neighbors need to retain and increase transfer capabilities.
8. New studies will be needed to identify reliability gaps. Those studies may require new study tools and approaches.
9. New reliability standards may need to be developed (1 in 10 years is no longer sufficient.)
10. NYISO must be the trusted source of information to policymakers, and advocate when necessary.

## Summary of Main Points | Chris Wentlent

### TOPIC 2: The Role of Emerging Technologies

#### General Observations/Themes

There is a consensus among the focus groups that:

- the NYISO has a major role to play in communication and education efforts,
- there is a need to further expand planning,
- market rule changes that support new resource attributes will be required for a changing generation resource base and operating the grid,
- greater regional coordination is necessary due to each RTO/ISO experiencing the same clean energy expansion, and
- the NYISO should adopt a technology neutral approach to ensure all tools are available to meet 2030, 2040 and 2050 CLCPA requirements.

#### Key Points – Specific Areas (Technology, Communication, Planning, Regional Coordination, Timing, Cost Affordability, Market Products, and Reliability)

##### Technology

- NYISO Climate Study identified a gap of 10% of energy and a much larger % of capacity that would need to be met in the future with dispatchable, zero emission resources. This gap must be filled by one or more technologies.
- The NYISO should not favor any one technology solution. Rather the NYISO should support all technologies as potential solutions – for example wind, solar, hydrogen, flow batteries, Renewable Natural Gas, and other emerging technologies.
- Market rules should not be guessing at the technology. Instead, the market rules should reflect the types of services that will be necessary to maintain a reliable grid while permitting new technology to meet the need.

##### Communication

- NYISO needs to continue its focus on educating interested parties and decision-makers outside its stakeholder process, including the NY State Legislature and key committees (energy and environmental), the Climate Action Council and the public. The New York legislature and other organizations are becoming increasingly involved at the energy / environmental intersection of our industry.
  - Examples are legislature briefings during the non-session period prior to start of the legislative cycle, technology specific symposiums, editorial boards, and Webex - Energy 101 seminars for the public and other energy-related organizations.
- The NYISO should continue to provide technical/analytical aid and feedback to the state and the utilities.

- There is a need to educate about sunset/night-time challenges that fall outside of the system peak load periods, seasonal variations created by greater utilization of intermittent fuel sources, and possible system reliability conditions created by extreme multi-day weather related events.

### **Planning**

- NYISO recent studies like the Short-Term Assessment of Reliability, Comprehensive Reliability Plan, Reliability Needs Assessment, Climate Impact studies and Power Trends are excellent products.
- Future NYISO studies need to focus on the attributes that will fill any identified reliability gaps and identify the costs and risks of different solutions. Reliability issues do not necessarily always occur during peak periods. Reliability issues can also arise outside peak hours when intermittent resources have coincident unavailability.
- Other areas of study to consider are:
  - Study impacts on existing fossil must-run capability associated with a new gas-fired generation moratorium and its CO2 implications.
  - The ISO can help by providing granular analysis on the impacts on Locational Capacity Resource requirements and the Installed Reserve Margin going forward, as CLCPA policy resources are deployed.
- The New York State Department of Environmental Conservation Peaker Rule implementation is an excellent template for future changes necessary to transition New York's energy system to zero carbon resources. The process involved multiple agencies (NYSDEC/NYSRPS/NYSRC) collaborating with the NYISO, detailed analysis, and effective stakeholder comment and feedback. It should be a model for other upcoming changes to ensure a smooth transition.

### **Regional Coordination**

- Multiple states are implementing clean energy programs including Offshore Wind, on-land renewable resources, behind-the-meter resources, electrification, energy efficiency, and other programs. Inter-regional plans should be forward looking to help anticipate future needs.
- Our capacity markets rely on neighboring systems for resource support. As all neighboring systems change simultaneously will that level of support continued to be available, or will each ISO/RTO become more dependent on its own resources to address system conditions?

### **Timing**

- Cost Affordability will only be realized if the process is orderly and realistic.
- We need to be cognizant of solving for near-term issues with an eye towards the future goal of a 100% carbon free grid.
- Continued focus on timely interconnection processes, and additional transmission and distribution upgrades will be necessary to support electrification efforts.

### **Cost Affordability**

- Need for cost visibility/transparency to move towards a carbon free system.
- Electrification of the loads will be challenging and costly. Should the NYISO, NYSERDA or industrial loads conduct a cost study?



## Market Products

- DR and DER (demand side) can provide increased operational flexibility to help manage resource gaps. Price signals will be important to fully tap this market.
- Carbon pricing (NYISO specific, NY economy-wide, or regional (RGGI type program)) was identified by several groups as part of the market solution.
- New ancillary service products that deal with operations gaps due to a changing resource mix, and enhanced system support services such as voltage support, frequency and black start capability were identified by multiple focus groups as necessary areas for further discussion and development.

## Reliability

- Do we have and/or are we using the best tools to assess future reliability needs?
- A large reliance on a limited set of renewable resources could limit diversity and create common-mode failures. Do we know how to analyze and mitigate these risks?
- Will new reliability standards/rules be needed? Is the one day in ten-year Loss of Load Expectation reliability criterion appropriate going forward? NERC, NPCC and NYSRC expertise will be needed in this area.