

2019 Master Plan: Draft & Discussion

Ryan Patterson

Capacity Market Design Associate

ICAPWG/MIWG

May 22, 2019 10 Krey Boulevard



DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2017. ALL RIGHTS RESERVED

Agenda

- Background
- Incremental Project Template Updates
- Project Overviews
- Next Steps

Background

Background

- In 2018, the NYISO created the first “Master Plan” at the request of stakeholders
 - The goal was to create a single document that provided one cohesive, strategic multi-year vision for future market design enhancements
 - The document ended up serving multiple purposes including providing valuable information for the NYISO’s project prioritization and strategic planning processes

Background

- During the development of the 2018 Master Plan, stakeholders had several suggestions for improving the Master Plan:
- In response to these stakeholder recommendations:
 - The NYISO has committed to updating the plan annually
 - The Master Plan template has been updated to better compare the level of effort required to obtain the expected benefits for each initiative
 - The template has also been updated to improve the understanding of the problem that each initiative aims to address

Strategic Themes

- **With the Master Plan, the NYISO aims to achieve three concurrent goals:**
 - Establish a clear framework for achieving the NYISO's vision of the future wholesale markets
 - Align the objectives for the next five years with the most recent Strategic Plan (2019-2023)
 - Support annual stakeholder-driven project prioritization efforts.

Project Template Updates

Project Template Updates

- In response to stakeholder feedback received on the first draft of the 2019 Master Plan (presented at the April 23, 2019 ICAPWG/MIWG meeting), the NYISO has made the following changes:
 - Enhanced discussion of project benefits, effort, and dependencies
 - A “Benefits & Effort” section has been created to provide more insight into each project’s expected impact and the process for achieving its objectives
 - A “Dependencies” section has also been created to better describe the interplay, sequencing, and priority among projects

Updated Project Template

Project Name

One sentence, high-level project description


Problem Statement

Discussion of the problem. What are we trying to solve?

Background

History, past work, and motivation. Why is this an important project?

Project Scope

2019	2020	2021	2022	2023	2024	Benefits
Concept Proposed	Deployment					Effort 

Captures the project plan, expected benefits, anticipated level of effort, and deliverables. How do we plan to solve this problem?

Benefits & Effort

How will this project improve markets, and how will we achieve this goal?

Dependencies

Which other projects need to be completed first?

Project Overviews

Project Groupings

- **Each project is grouped into one of three initiatives discussed in the Strategic Plan:**
 - Grid Reliability and Resilience
 - Projects that serve to maintain reliability and efficient operation of the grid under normal, stressed, and extreme conditions
 - Efficient Markets for Grid in Transition
 - Examining current and future products for how they support price formation, flexibility and resilience in a future with high renewables, storage, and distributed energy resources (DER)
 - New Resource Integration
 - Developing the participation models for new resource types, such as storage, DER, and aggregations
- **Although projects may address more than one initiative, the NYISO has elected to assign each project to only one initiative for purposes of the Master Plan**

Grid Reliability and Resilience

Project Name	Description	Benefits	Effort
Comprehensive System Planning Process Review	This project continues the effort that started in 2018 to review the comprehensive system planning process, and identify measures that could lead to more efficiently addressing the reliability, economic, and public policy needs through this cohesive process.	High	Medium
Reliability and Market Considerations for a Grid in Transition		Benefits	Effort
Further Discussions on Concepts Proposed in Grid in Transition Report	The goals of this study are to identify what market changes might be prudent in order to support reliability, efficient markets, and investment given the expected future resource mix. The NYISO is expecting this study to complete during 2019, at which point discussions will begin with stakeholders and MPs about the concepts proposed in the report. It is likely that projects, which may be included in the Master Plan, will develop as a result of this report and subsequent discussions; however, it is difficult to anticipate what those projects, and respective milestones, would be at this time.	N/A	N/A
Development of Potential Projects Resulting from Concepts Proposed			
Enhancing Grid Resilience		Benefits	Effort
Enhancing Fuel and Energy Security	This project seeks to enhance NYISO markets to provide for anticipated generating fuel needs, which will support grid reliability.	N/A	N/A
Reserves for Resource Flexibility	This project seeks to encourage resources to provide additional upward ramping capability, which will improve grid reliability and flexibility.	High	Low
Large-Scale Solar On Dispatch	This project seeks to place front-of-the-meter solar resources on dispatch in the NYISO's energy markets, so that they can provide downward ramping capability when necessary and improve operational flexibility.	High	Low

Efficient Markets for a Grid in Transition

Project Name	Description	Benefits	Effort
Carbon Pricing	The NYISO's Carbon Pricing proposal seeks to harmonize New York State public policy and the NYISO's wholesale markets by incorporating the social cost of carbon dioxide emissions when scheduling resources through the energy markets.	High	High
Evolution of Ancillary Services		Benefits	Effort
Ancillary Services Shortage Pricing	The purpose of this project is to evaluate the NYISO's Ancillary Services shortage pricing values, considering the implications of the grid of the future and the payment incentives in neighboring markets, including pay-for-performance capacity market designs.	High	Low
More Granular Operating Reserves	This project seeks to establish a new operating reserve region for Load Zone J in 2019 and propose future enhancements to reserve procurement in constrained load pockets of New York City (NYC).	High	Medium
Reserve Enhancements for Constrained Areas	This project seeks to dynamically procure operating reserves based on system needs and transmission capabilities, which will enable operating reserves to be scheduled more efficiently in constrained areas.	High	High
Enhancing Locational Price Formation		Benefits	Effort
Constraint Specific Transmission Shortage Pricing	This project seeks to improve resource scheduling efficiency and investment signals by enhancing the way that constraints on the transmission system are priced in the NYISO's energy markets.	Medium-High	Medium
Enhanced Fast Start Pricing	This project seeks to revise pricing logic for resources that can start up in 30 minutes or less, to improve price formation and incentivize new investment.	Medium	Medium

Efficient Markets for a Grid in Transition

Project Name	Description	Benefits	Effort
Reliability Value of Resources		Benefits	Effort
Demand Curve Reset	The demand curve reset (DCR) is a quadrennial study required by the NYISO Services Tariff of the various parameters used to set the Installed Capacity (ICAP) Demand Curves that seeks to align the capacity market with the expected costs of adding new capacity in New York State.	High	High
Expanding Capacity Eligibility/Capacity Values	Every four years, the NYISO will select a consultant to reassess the reliability benefit of short duration resources in the NYISO markets and provide the right investment signals to developers.	High	High
Tailored Availability Metric	This project looks to incentivize capacity resources to be available and perform during peak hours of operation.	Medium	Medium
Capacity Market Fundamentals		Benefits	Effort
Improving Capacity Price Formation	The Improving Capacity Price Formation project aims to examine the effects of using different slopes and shapes for the ICAP Demand Curves.	High	High
Capacity Zone Evaluation	The Capacity Zone Evaluation project will review the existing rules that govern how, when and why Capacity Zones are established, changed or eliminated, and evaluate if additional rules or modifications to the existing rules are needed.	High	High
Comprehensive Mitigation Review	This project will conduct a holistic evaluation to consider whether the current framework of Buyer-side Market Power Mitigation (“BSM”) rules will be adequate in a future with significant penetration of renewable and distributed energy resources that are expected to result from ambitious policy objectives.	N/A	High

New Resource Integration

Project Name	Description	Benefits	Effort
Class Year/Interconnection Queue Redesign Review	This project continues the effort that was started in 2019 to review the interconnection process, and identify key areas that could lead to improvements that could (1) expedite the interconnection study process overall, particularly Class Year Study, (2) limit the possibility for unique circumstances where a single or few projects may cause delays to numerous other projects, (3) provide an alternative and/or expedited process for deliverability analyses; and (4) add efficiencies to the Class Year and interconnection study processes.	High	High
New Resource Participation Models		Benefits	Effort
Energy Storage Resource Participation Model (SOM)	This project aims to deploy a participation model for Energy Storage resources with a minimum size of 100kW to effectively participate in the NYISO's energy, capacity and ancillary services markets.	High	Medium
Hybrid Storage Model	This project seeks to develop market participation rules for front-of-the-meter generators collocated with energy storage resources.	Medium	High

New Resource Integration

Project Name	Description	Benefits	Effort
DER Integration		Benefits	Effort
DER Participation Model	This effort will position the NYISO for future trends in electric grid advancements and allow for aggregations, including DER to participate in the wholesale electricity markets as well as more closely align those resources with limited duration capability to their respective Capacity payments.	High	High
NYISO Pilot Framework	This effort would allow NYISO staff to engage and learn about nascent technologies and their applications on the electric power system which would allow staff to prepare for future market design changes.	Medium	Medium
Meter Service Entity for DER	This project seeks to create a third party metering construct providing additional flexibility, optionality, and a modern approach to data services currently unavailable to Market Participants.	Medium	Medium
Dual Participation	The NYISO's proposed DER market design will allow resources that provide Wholesale Market services to also provide services to entities outside of the NYISO wholesale markets (e.g., the utility or a host facility).	High	Medium

Next Steps

Next Steps

- Please submit additional questions or feedback to rpatterson@nyiso.com
- Discussions will take place at ICAPWG/MIWG when drafts of the Master Plan are released
 - ~~March 2019~~ — Meet with each governance sector to get initial feedback
 - ~~April 23, 2019~~ — Release and discuss the initial draft of the Master Plan
 - ~~May 22, 2019~~ — Release and discuss updated draft
 - August 27, 2019 – Release and discuss further updated draft of the Master Plan
 - December 2019 – Release final Master Plan in conjunction with the 2020 Business Plan

Feedback/Questions?

email: rpatterson@nyiso.com

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system



www.nyiso.com