

2022 Master Plan Draft

Mike Swider

Senior Market Design Specialist

ICAP/MIWG/PRLWG Meeting:

September 20, 2022

Agenda

- **Background**
- **2022 Master Plan Overview**
- **Key Themes**
 - Market projects
 - Capacity Projects
 - New Resource Integration Projects
- **Multi-year Project Timelines**

Background

- Each year NYISO releases a 5-year Master Plan of market enhancements
- The Plan includes Stakeholder priorities, as well as mandatory and ongoing projects
- The intent is to provide transparency on the purpose, timeline and interdependencies of current and future multi-year project initiatives

Master Plan Process

- The Master Plan begins with feedback on Stakeholder priorities at the Sector Meetings and BPWG
- Multi-year objectives are developed by NYISO management by combining stakeholder priorities with mandatory projects while managing NYISO resource constraints
- Draft shared this month for stakeholder review
- Final draft published near the end of the year after finalization of 2023 project plan and budget

Overview

- **The Plan is organized by major initiative:**
 - Energy Market
 - Markets for the Future
 - Improving Price Formation
 - Financial Instruments for Energy Markets
 - Capacity Market
 - Capacity Accreditation
 - Capacity Improvements to Support Reliability
 - New Resources and Technologies
 - Enabling New Resources and Capabilities
 - Improving Market Models

Key Themes

Energy Market

- Future integration of large amounts of weather-dependent resources will create challenges for balancing intermittency
- The *Markets for the Future* initiative will include a review of real-time market structures, more dynamic and granular operating reserves requirements, 5-minute transaction scheduling, and enhancing fuel security

Energy Market, continued

- Proper incentives are needed for resources to offer the responsiveness necessary to maintain system security
- *Improving Price Formation* projects will focus on sending the right locational prices signals for resources to provide reserves and flexibility and respond to real-time needs, while *Financial Instruments* projects will support investment by improving hedging opportunities

Capacity Market

- Capacity markets must adapt to the changing generation mix to maintain a sufficient Installed Reserve Margin
- *Capacity Accreditation* projects will help value capacity based on their contributions to resource adequacy
- *Capacity Improvements to Support Reliability* will focus on improving resource adequacy modeling and anticipated changes to seasonal capacity requirements

New Resources

- Supporting clean energy objectives means the system must incorporate new technologies and allow load to become more dynamic and responsive
- *Enabling New Resources* projects support the diversification of the system resource mix with the integration of hybrid and demand-side resources and internal controllable lines
- *Improving Market Models* will better enable duration-limited energy resources to more optimally utilize their capabilities

Proposed Multi-year Project Timelines

Energy Market Projects

	2022	2023	2024	2025	2026	2027
Energy Market		Master Plan				
<i>Markets for the Future</i>						
Balancing Intermittency	SC	CP	FR	DEP		
Dynamic Reserves	CP	MDC	FR	DC	DEP	
Review of RT Market Structure				ID	SD	CP
Emissions Transparency		FR	DEP			
Enhancing Fuel and Energy Security		SC				
Long Mountain PAR Operating Protocol with ISO-NE		MDC	DEP			
More Granular Operating Reserves			MDC	FR	DEP	
5-minute Transaction Scheduling			MDC	FR	DC	DEP
Separating Up and Down Regulation Service				CP	MDC	DC

Energy Market Projects, continued

	2022	2023	2024	2025	2026	2027
Energy Market		Master Plan				
<i>Improving Price Formation</i>						
Constraint Specific Transmission Shortage Pricing	FR	DEP				
Improve Duct Firing Modeling	CP		MDC	DEP		
Eliminate Offline GT Pricing			DEP			
Long Island Reserve Pricing			MDC	FR	DEP	
<i>Financial Instruments</i>						
Evolving Financial Transaction Capabilities - Bilateral Transactions		SDS	DEP			
Unbalanced Trading Hubs				MDC	FR	DEP

Capacity Market Projects

	2022	2023	2024	2025	2026	2027
Capacity Market		Master Plan				
<i>Comprehensive Mitigation Review</i>						
Comprehensive Mitigation Review	DEP					
<i>Capacity Accrediation Measures</i>						
Improving Capacity Accreditation	MDC	DEP				
Modeling Improvements for Capacity Accreditation		FR	DEP			
<i>Capacity Improvements to Support Reliability</i>						
Demand Curve Reset		SD	SC	DEP		SD
LCR Optimizer Enhancements		MDC	DEP			
Evolving Resource Adequacy Models			Coordinate Improvements with NYSRC			
Winter Reliability Capacity Enhancements				ID	CP	MDC
<i>Improving Market Processes</i>						
CRIS Expiration Evaluation	MDC	FR	DC	DEP		

New Resource Projects

New Resources and Technologies	Master Plan					
<i>Enabling New Resources and Capabilities</i>						
DER Participation Model	DC	DEP				
FERC Order 2222 Compliance		MDC				
Engaging the Demand-Side		ID	CP	MDC	FR	SDS
Hybrid Aggregation Model	FR	SDS	DC	DEP		
Internal Controllable Lines	CP	MDC	FR	DEP		
Storage as Transmission		ID	Continue Based on Project Findings			
<i>Improving Market Models</i>						
Enhance Run-Limited Resource Modeling				CP	MDC	FR

Legend

Key			
CD	Continued Discussions	MDC	Market Design Complete
ID	Issue Discovery	FR	Functional Requirements
SD	Study Defined	SD	Software Design Specification
SC	Study Complete	DC	Development Complete
CP	Market Design Concept Proposed	DEP	Deployment

Our Mission & Vision



Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation