

NYISO Introduction

E- Learning Module



NYISO Introduction

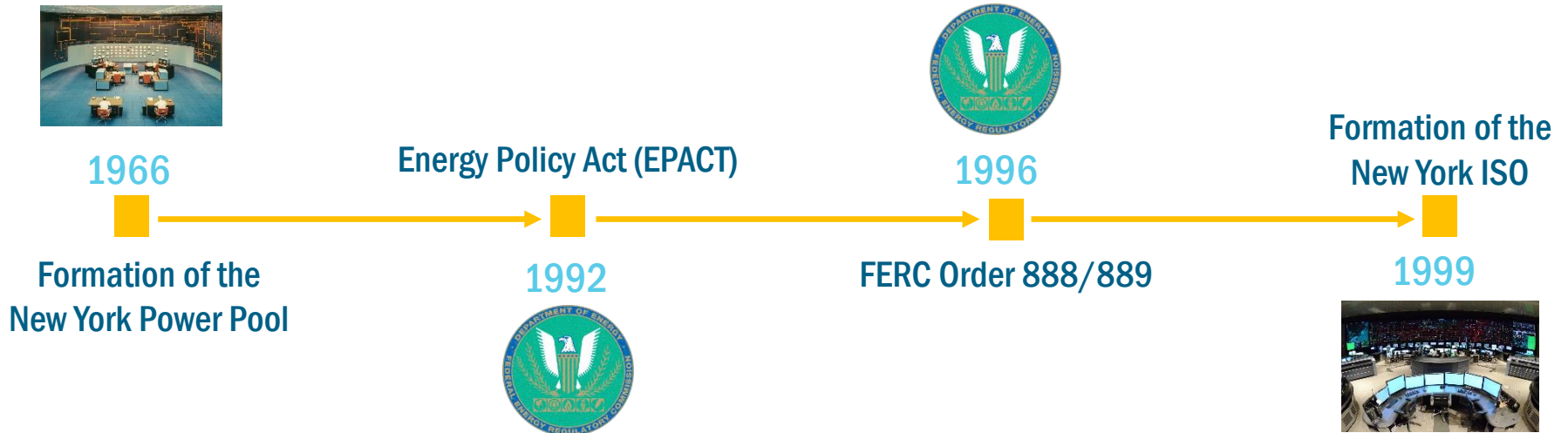
MODULE OBJECTIVES:

- Explain the formation history of the NYISO
- Describe the Shared Governance process at the NYISO
- State NYISO's Mission, Vision and Key roles

NYISO History

NYISO History

Important Events in the timeline



NYISO History

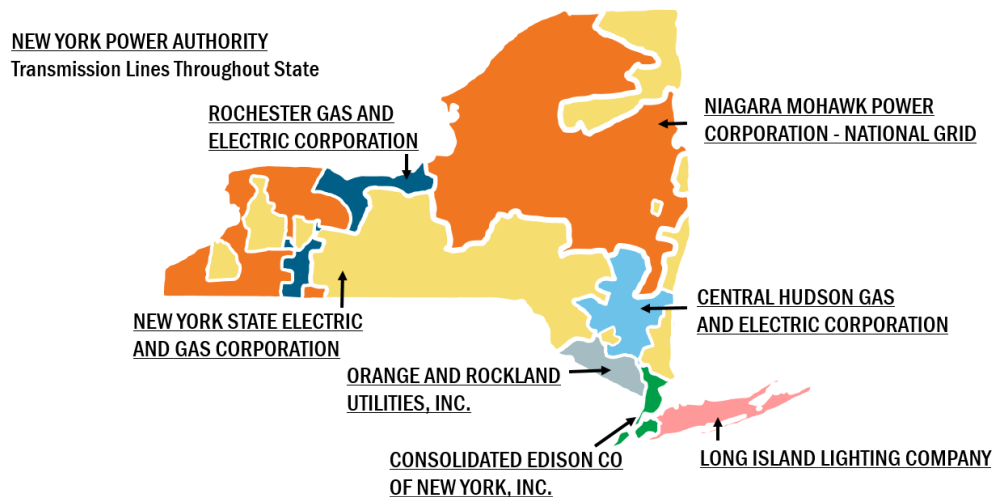
New York Power Pool (NYPP) - 1966

- Predecessor to NYISO
- Created in response to the Northeast Blackout of 1965
- Established by New York's utility companies to improve system and operational reliability
- Coordinated power reliability and managed the statewide wholesale grid
- Dispatched power from generators to balance supply and demand in the electric system

NYISO History

New York Power Pool (NYPP) - 1966

- Created by six investor-owned utility companies and two state-owned power authorities, which owned and operated New York's electric system



NYISO History

- **The Energy Policy Act of 1992 (EPACT)**
 - Federal law aimed at improving energy efficiency, due to rising electricity prices
 - **Beginning of restructuring of the electric industry by opening transmission lines to competition**
- **FERC Orders 888/889 of 1996**
 - Public utilities to provide open access for all electricity suppliers to the US power transmission grid
 - Restructuring of the electric industry in New York
 - **Divestiture of generating assets from the NY utilities**
 - **Creation of competitive energy markets**

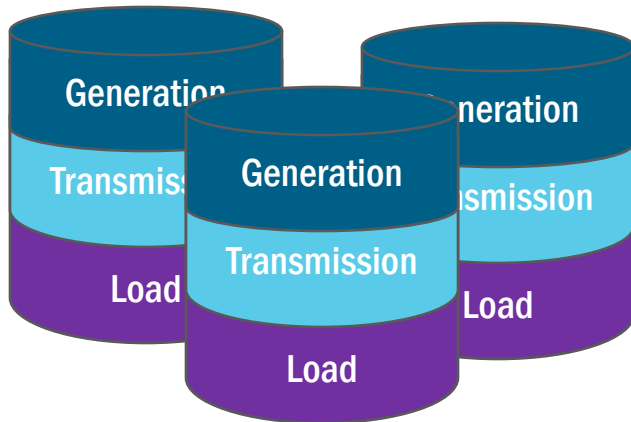


NYISO History

Electric Industry Restructuring

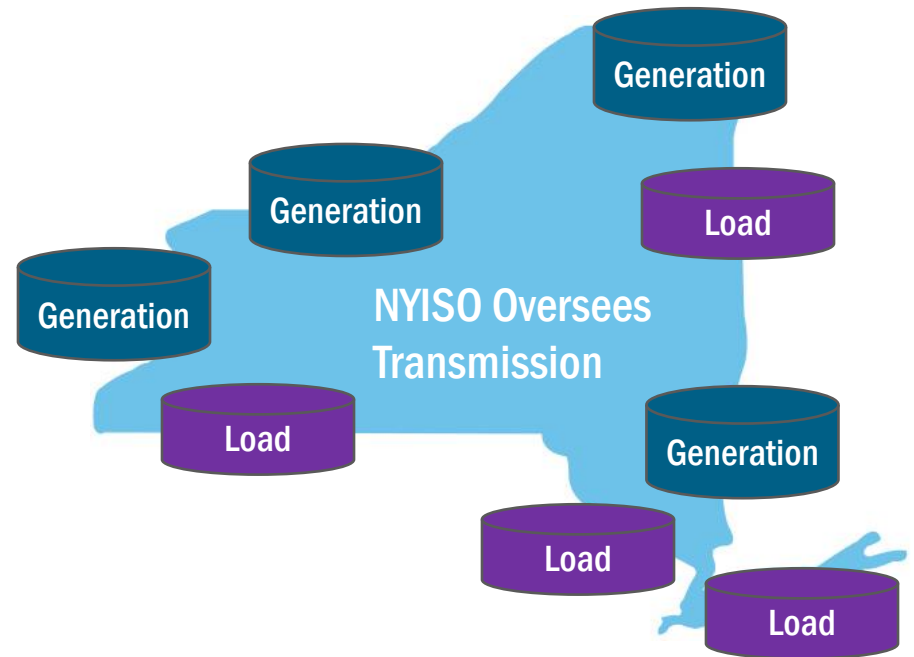
Utility World

Pre-FERC Order 888/889
Vertically Integrated



Restructured World

Post-FERC Order 888/889
Open Access to Transmission



NYISO Formation

- **The NYISO Began Operations on December 1st of 1999**
- **Independent and Non-Profit**
 - Designed to provide objective and impartial operation of the bulk power grid and administration of the wholesale electricity markets serving New York
 - Independent of power generators and the utilities that sell power to consumers



NYISO Governance

NYISO Governance

- **NYISO was created as an independent, not-for-profit organization to serve the best interests of New York's electric system and its customers**
- **NYISO independence comes with accountability; NYISO work is overseen by:**
 - Government
 - Electricity Reliability Organizations
 - Market Participants

NYISO Governance

Government Oversight



Federal Energy Regulatory Commission (FERC)

- Jurisdiction over transmission service and wholesale power sales
- Regulates the NYISO and other ISO/RTOs in the United States

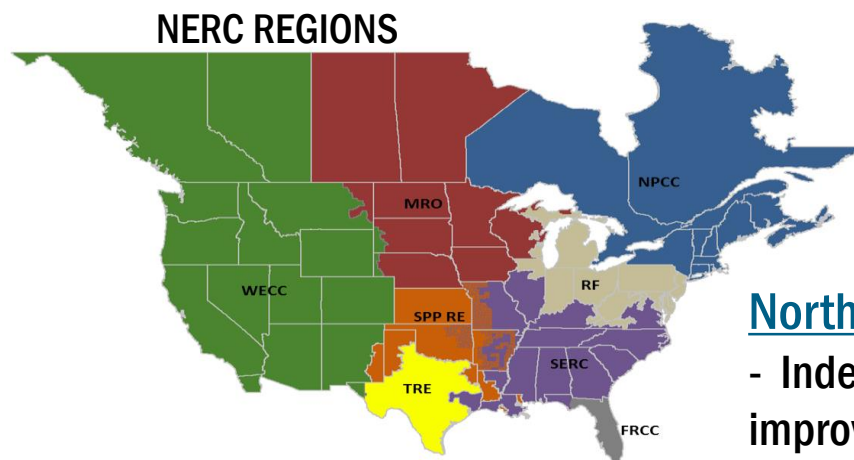
New York State Public Service Commission (NYS PSC)

- Jurisdiction over generation, transmission siting, resource adequacy, compliance with NYSRC rules, and local electric distribution within New York
- Active participant in the NYISO's shared governance process



NYISO Governance

Reliability Regulation

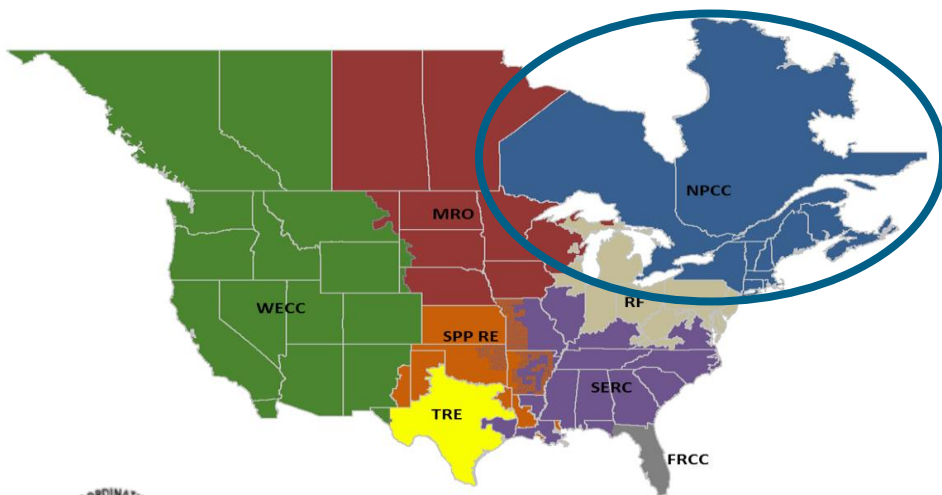


North American Electric Reliability Corporation (NERC)

- Independent, not-for-profit organization with mission to improve the reliability and security of the bulk power system in the U.S., Canada and part of Mexico
- Compliance with NERC Reliability Standards became mandatory and enforceable in the U.S. in 2007

NYISO Governance

Reliability Regulation

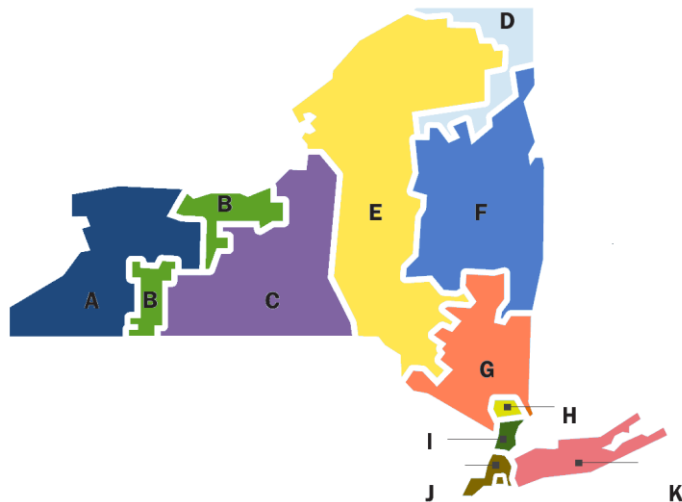


Northeast Power Coordinating Council (NPCC)

- Includes New York, New England, Ontario, Québec, and the Maritimes
- Formed as voluntary, not-for-profit, regional reliability organization in 1966
- Restructured in 2007

NYISO Governance

Reliability Regulation



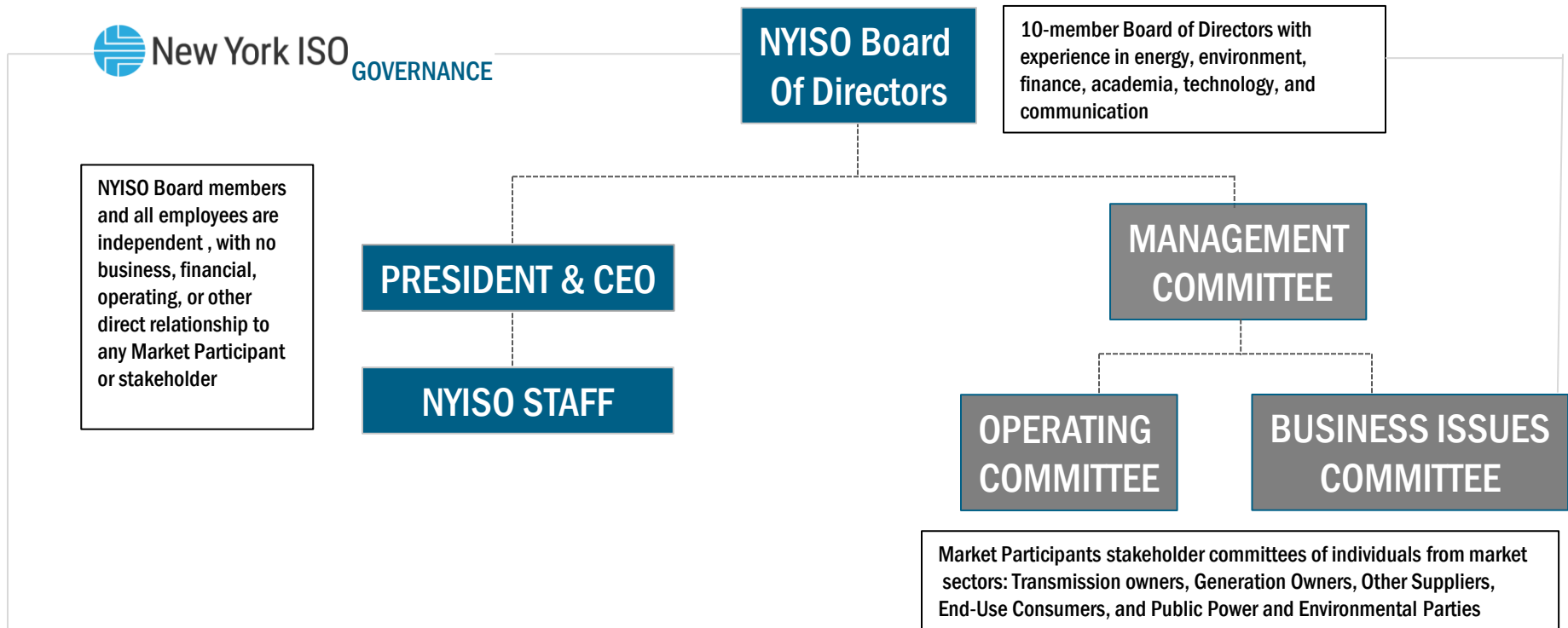
New York State Reliability Council (NYSRC)

- Not-for-profit organization established in 1999
- Responsible for Reliability Rules specific to the New York State Power System
- U.S. law authorizes New York State to impose more stringent reliability standards



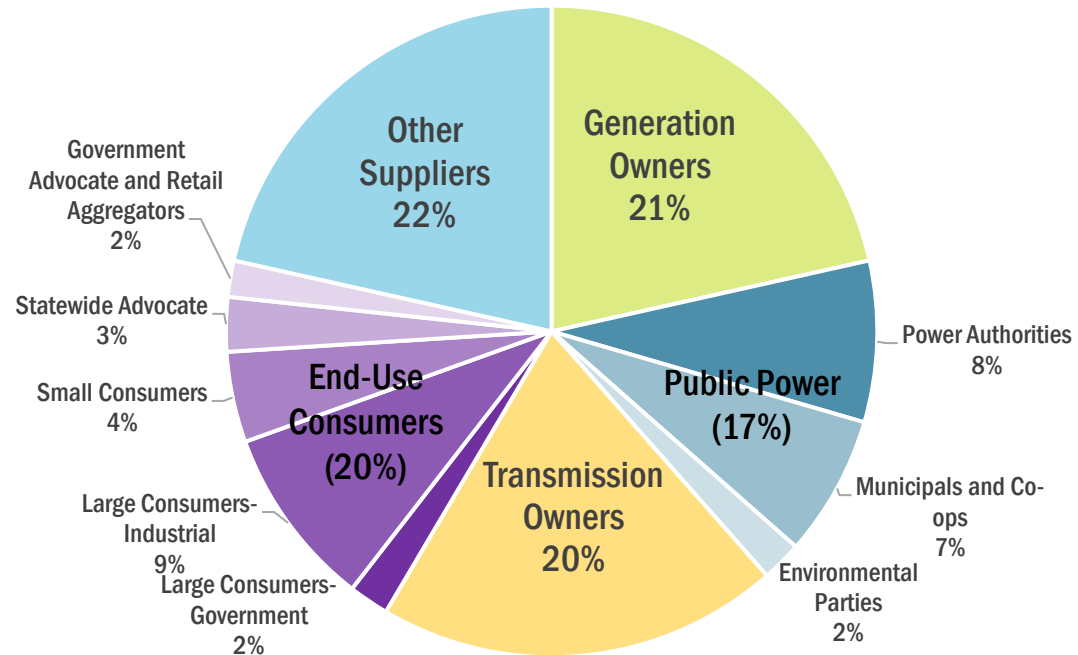
NYISO Governance

Shared Governance



NYISO Governance

Sector Voting System



**58% Approval
Required**

NYISO Governance

NYISO Tariffs

- **Open Access Transmission Tariff (OATT)**
 - Provides Transmission Services on an Open Access Basis
- **Market Administration and Control Area Services Tariff (MST)**
 - Provides all other Market & Control Area Services
- **Both Tariffs are approved by the Federal Energy Regulatory Commission (FERC)**

NYISO Mission and Key Roles

NYISO Mission & Vision



Mission

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



Vision

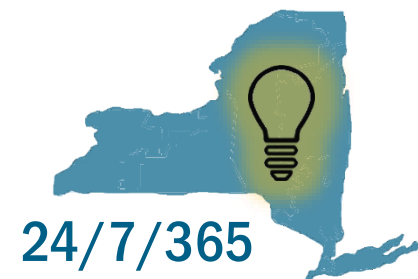
Working together with stakeholders to build the cleanest, most reliable electric system in the nation

Key Roles NYISO Plays

- In keeping with NYISO's mission and vision to serve :
 - Maintaining and enhancing regional reliability
 - Operating open, efficient 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
 - Advancing the technological infrastructure of the electric system

NYISO's Key Roles: Reliable Operations

- “Keeping the lights on” requires:
 - Managing the flow of power of nearly 11,000 circuit-miles of transmission lines from more than 400 generating units
 - Balancing New York’s electrical supply with consumer demand every few seconds, all day long, every day of the year
 - Complying with approximately 1,000 reliability standards and requirements that govern NYISO operation of New York’s grid



NYISO's Key Roles: Efficient Markets

- NYISO administers open and competitive wholesale electricity markets:
 - Energy Market
 - Ancillary Services Market
 - Installed Capacity Market
 - Demand Response Programs
 - Other Markets (financial)
 - Transmission Congestion Contracts
 - Virtual Trading



NYISO's Key Roles: Comprehensive Planning

- Planning future needs over a 10-year horizon and evaluating projects proposed to meet those needs
- NYISO's Comprehensive System Planning Process
 - Local Transmission Planning Process
 - Reliability Planning Process
 - Economic Planning Process
 - Public Policy Transmission Planning Process



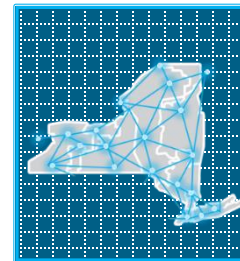
NYISO's Key Roles: Authoritative Information Source

- Source of reliable, authoritative information for energy consumers, stakeholders, and public and private decision makers in New York
 - NYISO accomplishes this by providing thorough consumer analyses and by undertaking a variety of information and education activities
 - Training & Education in Grid Operations and Market Orientation Sessions
 - Consumer Impact Analysis



NYISO's Key Roles: Advancing Technological Infrastructure

- NYISO's Technology Strategy:
 - Developing and deploying information technology and tools to make the grid smarter
 - Deliver capabilities that allow the NYISO to adapt to the dynamic operational and planning requirements of managing a more complex grid with increase renewables and distributed generation
 - Invest in technologies that provide a new level of flexibility and scalability
 - Continue to advance cyber security protections to stay ahead of the evolving cyber threat landscape



NYISO Market Overview Suite: Contents

- Power Systems Fundamentals
- Energy Marketplace
- Locational Based Marginal Pricing
- Energy Market Transactions
- Transmission Services
- Ancillary Services
- Installed Capacity
- Demand Response

Questions?

For any future assistance, please contact NYISO Stakeholder Services at stakeholder_services@nyiso.com or by phone at (518) 356-6060