

NYISO Planning Update

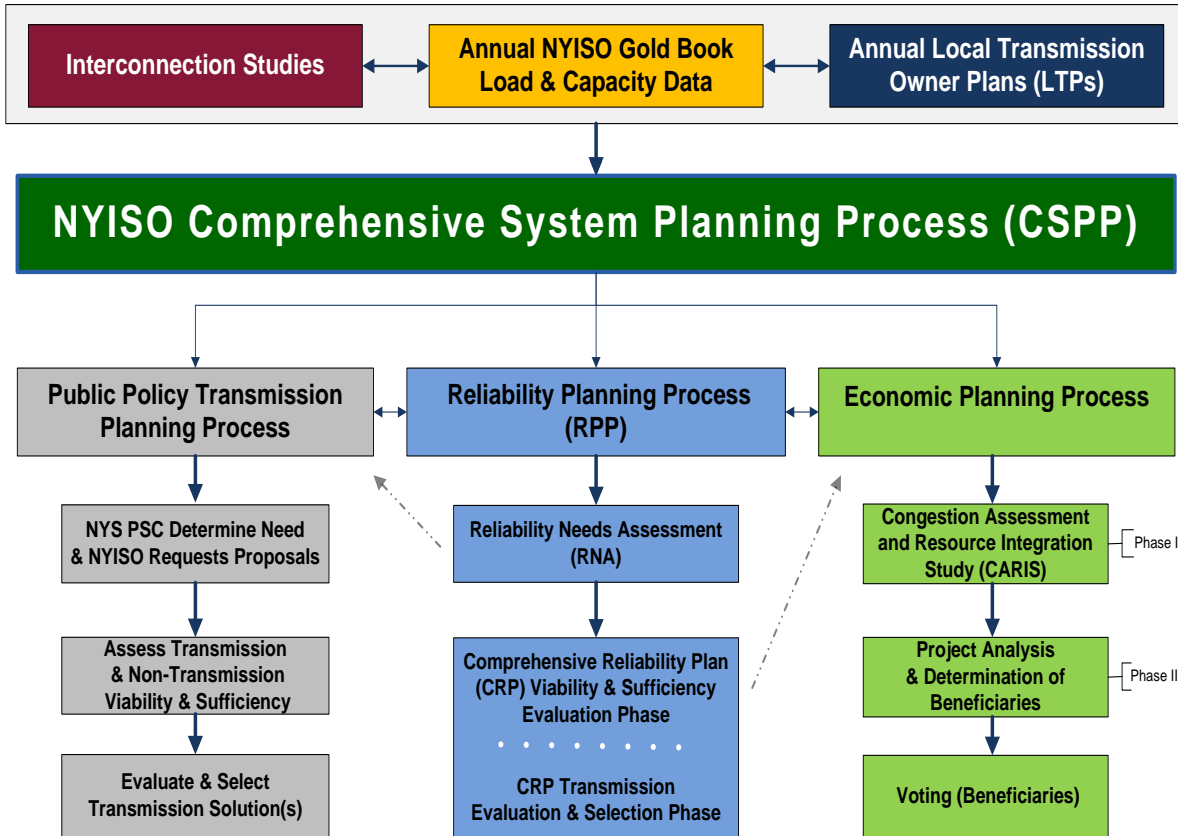
Dawei Fan

Supervisor, Public Policy and Interregional Planning,
NYISO

Inter-Area Planning Stakeholder Advisory Committee
(IPSAC) Meeting

May 19, 2017





Reliability Planning Process

- Two-year process
- Reliability Needs Assessment (RNA)
 - Evaluates the adequacy and security of the bulk power system over a ten-year study period, and identifies Reliability Needs
- Comprehensive Reliability Plan (CRP)
 - Develops a comprehensive plan to satisfy the reliability needs identified in RNA

2016 RNA

- Two Reliability Needs identified
 - NYSEG (Oakdale 345/115 kV)
 - PSEG-LIPA (East Garden City to Valley Stream 138 kV line)
- NYSEG and PSEG-LIPA presented Local Transmission Plans and operational procedures eliminating the two Reliability Needs
- Approved by NYISO Board on October 18,

2016

2016 CRP

- Under the conditions studied in the 2016 RNA, the New York State Bulk Power Transmission Facilities meets all applicable Reliability Criteria over the 2017-2026 Study Period
- Approved by NYISO board on April 11, 2017
- Final report posted at below link:



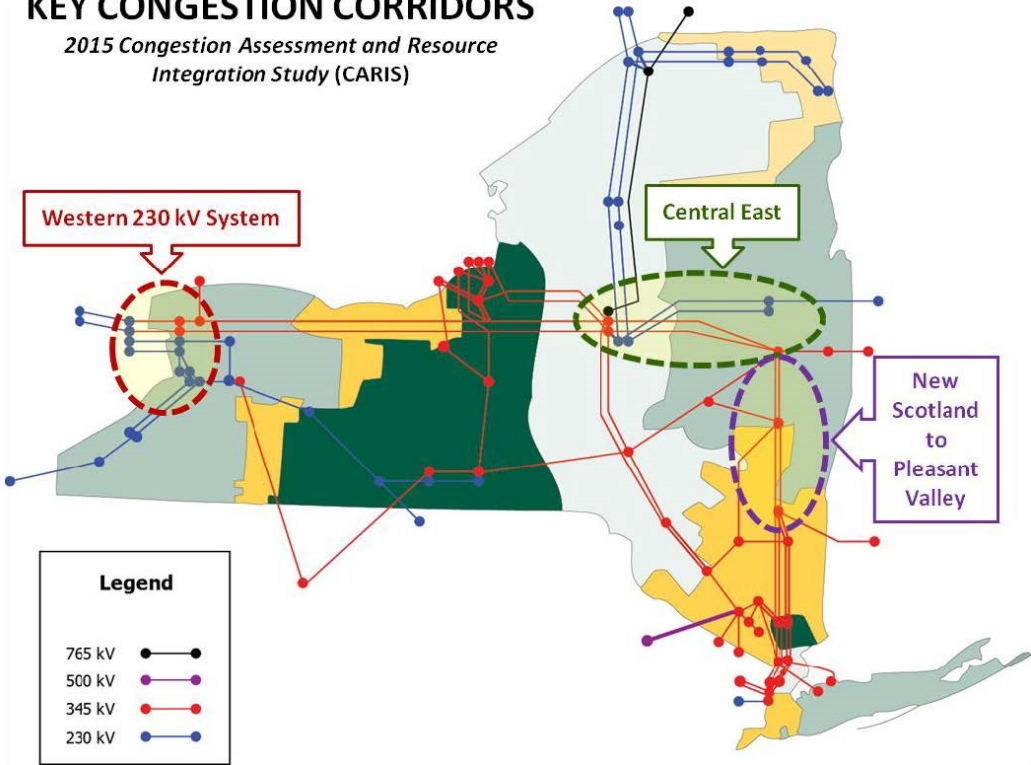
Economic Planning Process

- **Two-year process: Congestion Assessment and Resource Integration Study (CARIS)**
 - **Phase I: Study Phase**
 - Performed in alternate years to the RNA
 - Determine top congested locations in NYCA
 - Develop generic solutions – transmission, generation, demand response, and energy efficiency
 - Provide information to developers and marketplace
 - **Phase II:**
 - **Specific Projects**
 - Transmission projects seeking regulated cost recovery under NYISO Tariff
 - Eligibility threshold: Cost over \$25M, B/C ratio over 1.0, 80% beneficiary vote
 - **Additional CARIS Studies**
 - Assumptions and scenarios customizable
 - Confidential except for basic information

2015 CARIS Phase 1

KEY CONGESTION CORRIDORS

2015 Congestion Assessment and Resource Integration Study (CARIS)



2016 CARIS Phase 2

- **The 2016 CARIS Phase 2 Base Case results**

- Presented at the July 5, 2016 ESPWG
- http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_espwg/meeting_materials/2016-07-05/CARIS%20%20Database.pdf

- **Specific Projects and Additional CARIS Studies**

- Posted at following link:
- http://www.nyiso.com/public/markets_operations/services/planning/planning_studies/index.jsp

Public Policy Planning

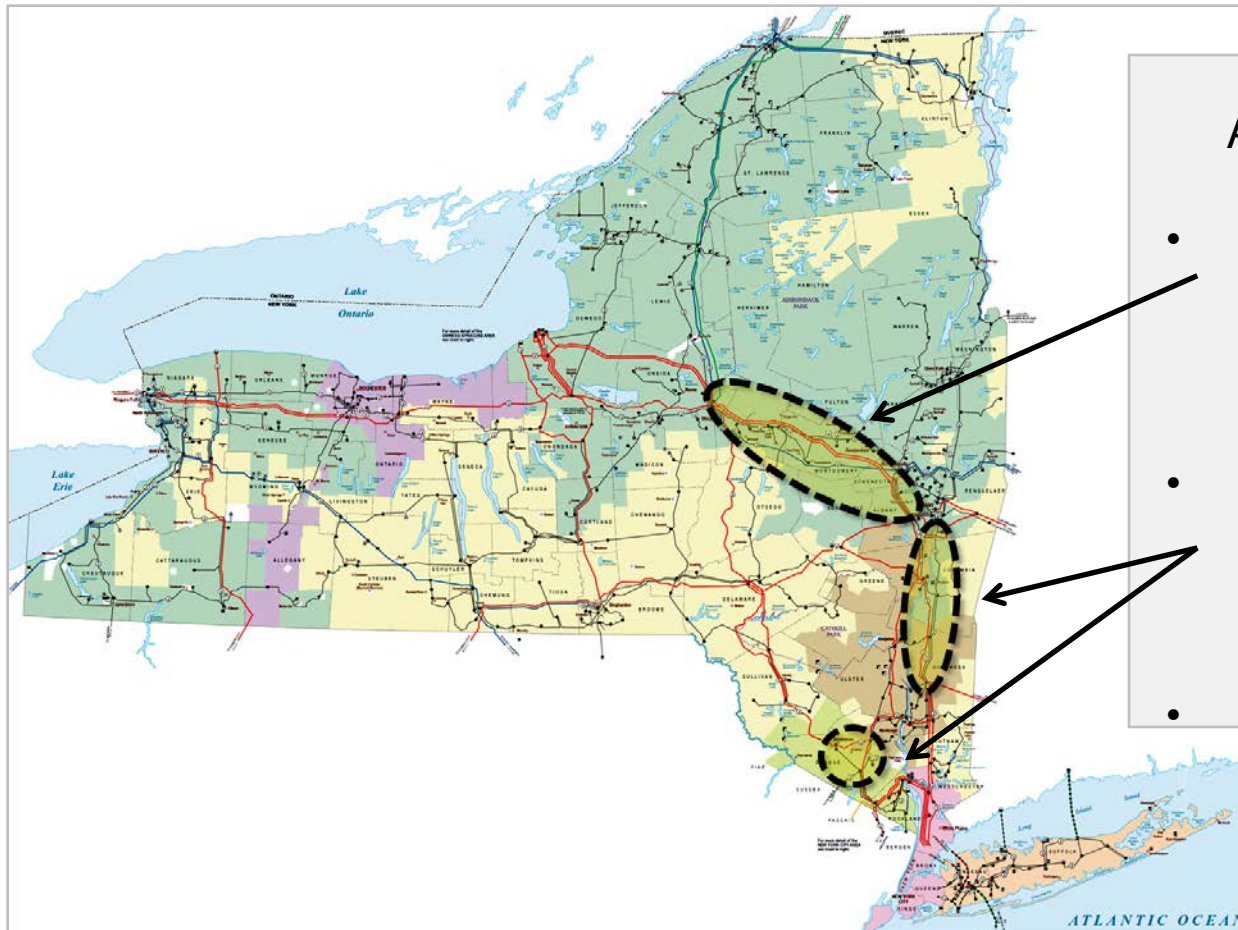
- Two-year process performed in parallel with RNA/CRP
 - Phase I: Identify Needs and Assess Solutions
 - PSC identifies transmission needs driven by Public Policy Requirements and defines sufficiency criteria
 - NYISO solicits solutions (transmission, generation, or EE/DR)
 - NYISO evaluates viability and sufficiency of all solutions
 - PSC reviews Viability and Sufficiency Assessment (VSA) and confirms continued transmission need
 - Phase II: Transmission Evaluation and Selection
 - NYISO evaluates viable and sufficient transmission solutions to identify the more efficient or cost-effective solution
 - NYISO Board may select a transmission solution for purposes of cost allocation and recovery under the NYISO Tariff

Western NY Public Policy Transmission Need (PPTN)

- **July 20, 2015 PSC Order -- NYISO to consider projects that increase Western NY transmission capability sufficient to:**
 - Obtain the full output from Niagara (2,700 MW including Lewiston Pumped Storage);
 - Maintain certain levels of simultaneous imports from Ontario across the Niagara tie lines (i.e., maximize Ontario imports under normal operating conditions and at least 1,000 MW under emergency operating conditions);
 - Maximize transfers out of Zone A to the rest of the state;
 - Prevent transmission security violations (thermal, voltage or stability) that would result under normal and emergency operating conditions; and
 - Maintain reliability of the transmission system with fossil-fueled generation in Western NY out-of-service, as well as in-service.

Western NY PPTN - Timeline

- November 1, 2015 – NYISO issued solicitation for Public Policy Transmission Projects and Other Public Policy Projects
- December 31, 2015 – Eight developers submitted 15 project proposals
- April 29, 2016 – NYISO issued draft VSA
- May 30, 2016 – NYISO finalized VSA and identified 10 viable and sufficient projects
- October 13, 2016 – PSC issued order confirming the WNY PPTN
- ◆ Next steps – NYISO currently working on the evaluation and selection of transmission solutions



AC TRANSMISSION PPTN

- **Segment A (Central East)**
 - New Edic/Marcy to New Scotland 345 kV line
 - Decommission Porter to Rotterdam 230 kV lines
 - 230/345 kV connection to Rotterdam
- **Segment B (UPNY/SENY)**
 - New Knickerbocker to Pleasant Valley 345 kV line
 - Rock Tavern substation terminal upgrades
 - Shoemaker – Sugarloaf 138 kV line
- *See PSC Order for full description*

AC Transmission PPTN - Timeline

- December 17, 2015 – PSC issued Order finding the need for new AC transmission facilities to reduce congestion from upstate to downstate NY
- February 29, 2016 – NYISO issued solicitation for Public Policy Transmission Projects and Other Public Policy Projects
- April 29, 2016 – Six Developers submitted 16 project proposals
- September 21, 2016 – NYISO issued draft VSA
- October 27, 2016 – NYISO finalized VSA and identified 13 viable and sufficient projects
- January 24, 2017 – PSC issued order confirming the AC Transmission PPTN
- ◆ Next steps – NYISO will proceed with evaluation and selection of transmission solutions

2016-2017 Public Policy Planning Cycle

- August 1, 2016 – NYISO initiated 2016-2017 Public Policy Transmission Planning Process (PPTPP) cycle by issuing solicitation for proposed transmission needs driven by Public Policy Requirements
- September 30, 2016 – 12 entities proposed transmission needs
- October 3, 2016 – NYISO filed proposals with PSC for its consideration
- ◆ Next steps – If PSC determines there is a need for transmission, NYISO will solicit proposals for specific projects

Stakeholder Material

- The NYISO Comprehensive System Planning Process is regularly discussed at the Electric System Planning Working Group (ESPWG):
 - http://www.nyiso.com/public/markets_operations/committees/meeting_materials/index.jsp?com=bic_espwg
- Study documentation is available at:
 - http://www.nyiso.com/public/markets_operations/services/planning/planning_studies/index.jsp

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



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