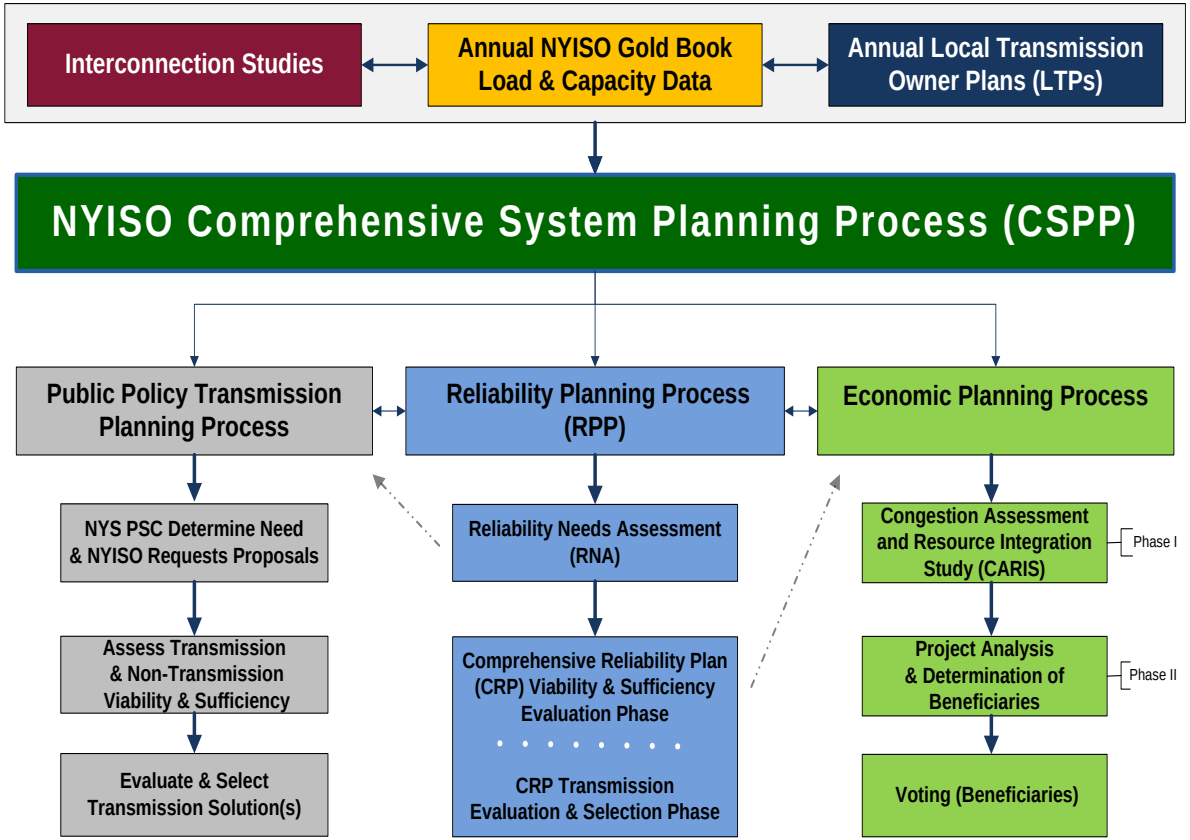
Updates on NYISO's Comprehensive System Planning Process

Dawei Fan
Supervisor, Public Policy and Interregional Planning, NYISO

Interregional Planning Stakeholder Advisory Committee (IPSAC) Meeting

December 11, 2017



Reliability Planning Process

- Two-year process starting in even years
- 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

Status of Reliability Planning Process

- 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. Final report posted at below link:

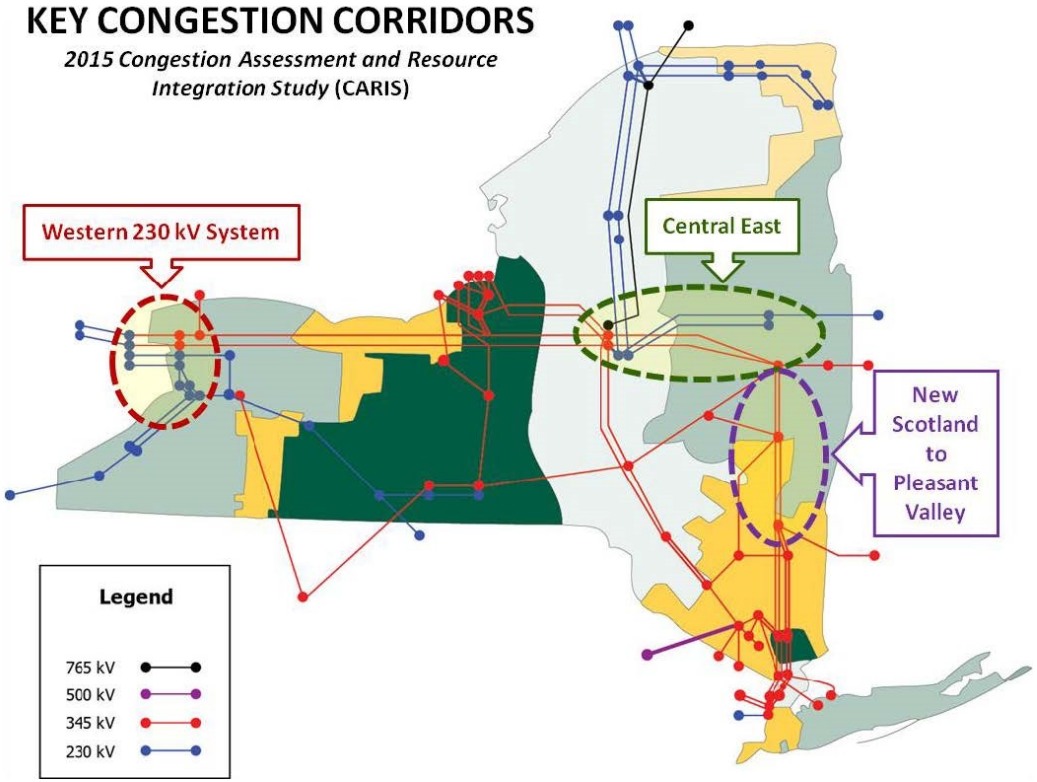
  http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Assessment_Documents/2016CRP_Report_Final_Apr11_2017.pdf

- The NYISO will start a new RNA/CRP cycle in 2018.

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, load payment saving over cost, 80% beneficiary vote
    - Additional CARIS Studies
      - Assumptions and scenarios customizable
      - Confidential except for basic information

2015 CARIS Phase 1



Status of CARIS

- **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%202%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
- **The NYISO is currently working on 2017 CARIS Phase 1.**

Public Policy Transmission Planning

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

Western NY Transmission Need

- On July 20, 2015, PSC issued an order identifying the Western NY Public Policy Transmission Need (PPTN).
- NYISO was required to consider projects that increase the Western NY transmission capability sufficient to:
  - Ensure 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
  - Maintain reliability of the transmission system with fossil-fueled generation in Western NY out-of-service, as well as in-service

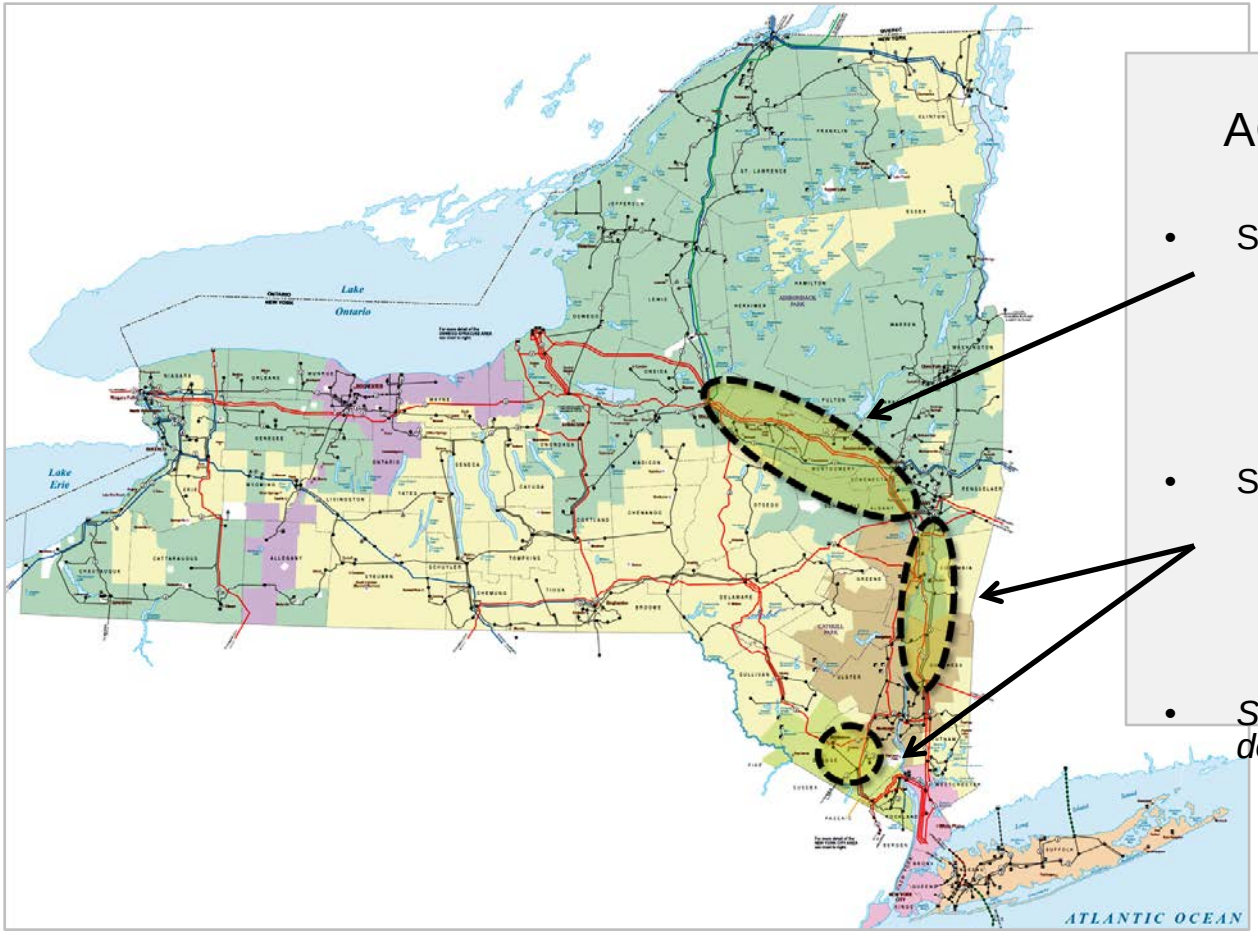
Western NY Project Selection

- NYISO staff recommended Empire State Line Proposal 1 (T014), proposed by NextEra Energy Transmission New York, as the more efficient and cost effective solution.

- In October 2017, the NYISO Board of Directors selected the NextEra project.

- Final Western NY report is posted at: http://www.nyiso.com/public/markets_operations/services/planning/planning_studies/index.jsp

NEW YORK INDEPENDENT SYSTEM OPERATOR



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*

NEW YORK INDEPENDENT SYSTEM OPERATOR

Status of AC Transmission PPTN

- The NYISO staff and its independent consultant are currently evaluating 13 viable and sufficient projects to recommend the more efficient or cost effective project.
- The NYISO tentatively plans to provide the draft results by the end of Q1 2018.

Future Public Policy Transmission Need

- Currently still in the 2016-2017 Public Policy Transmission Planning Process (PPTPP) cycle. If the PSC determines there is a need, the NYISO will solicit proposals for specific projects.
- The NYISO will initiate the 2018-2019 PPTPP cycle in 2018 by issuing solicitation for proposed transmission needs driven by Public Policy Requirements.

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

www.nyiso.com

NEW YORK INDEPENDENT SYSTEM OPERATOR