

NYISO Transmission Planning & Cost Allocation

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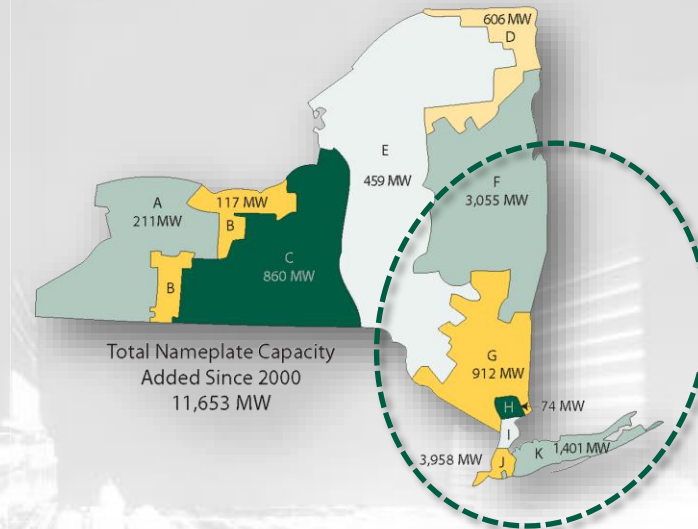
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Harvard Electricity Policy Group 81st Plenary Session
Transmission Expansion and Cost Allocation: Order 1000 Redux Panel
December 10, 2015

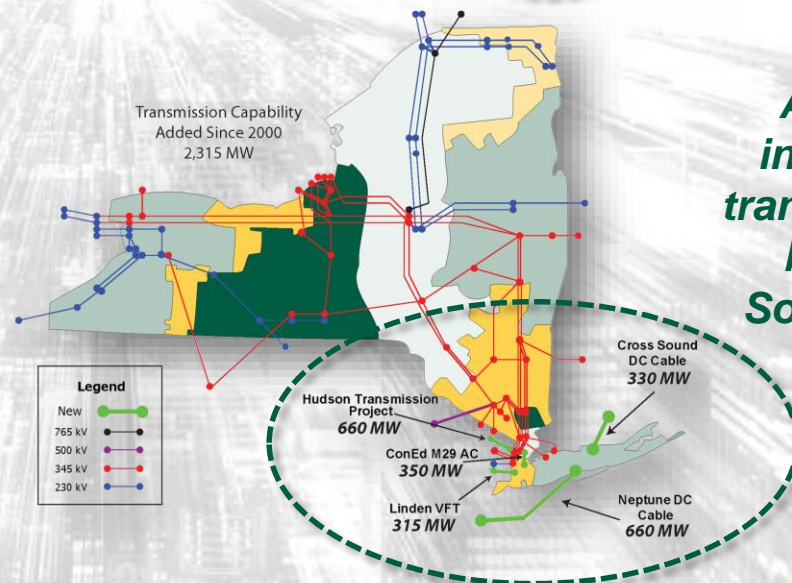
Palm Beach, FL

Infrastructure Investment

- ◆ Locational market signals have driven investments in both generation and transmission
- ◆ New investments have been predominantly directed at serving metropolitan New York City region -- where both energy and capacity prices are the most attractive

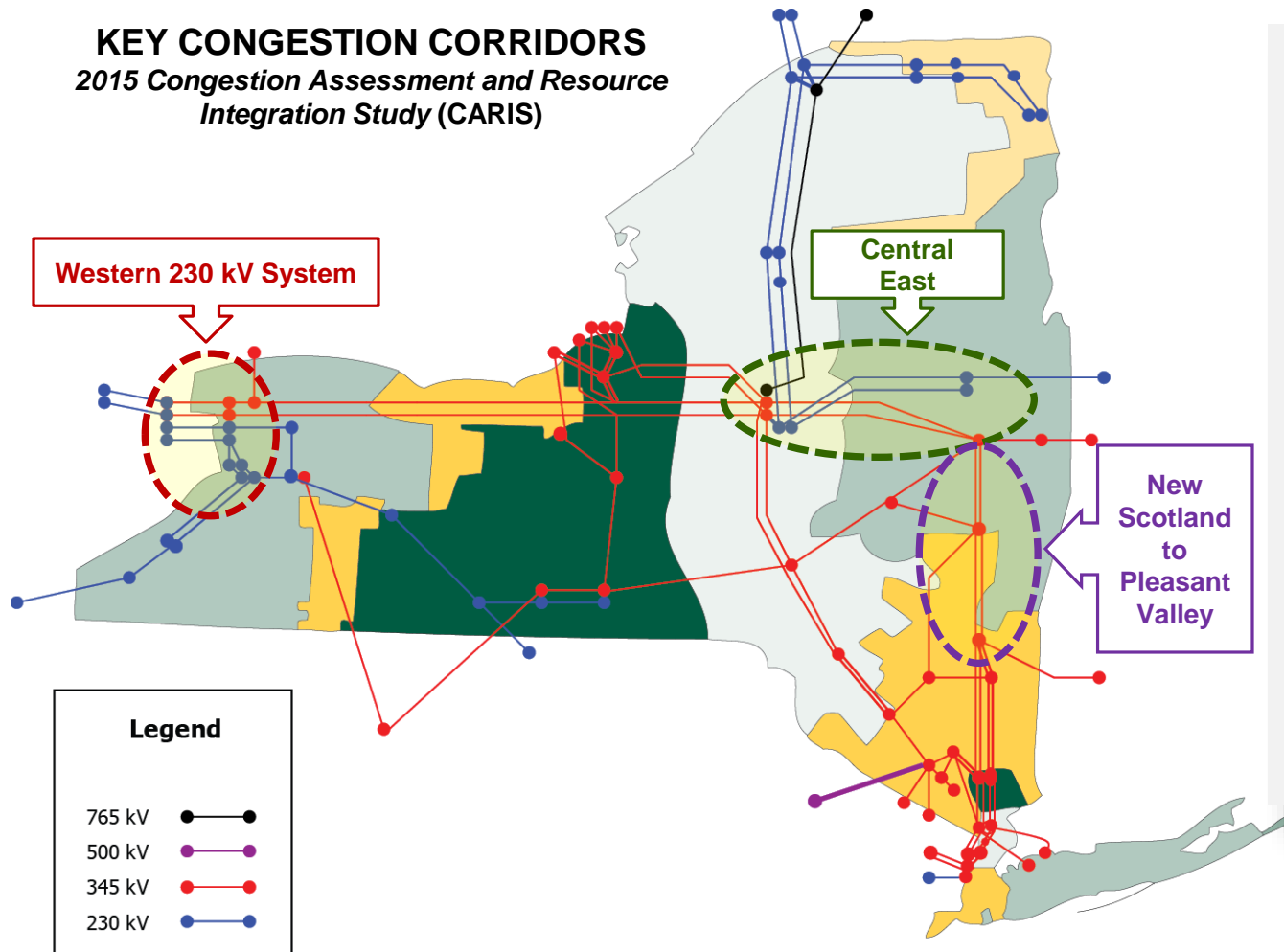


80% of new generation built in South/East where demand is greatest



All new interstate transmission built in South/East

Transmission Congestion



The most congested parts of NY's transmission system restrict flow of power from Northern and Western NY to Southeastern NY

NYISO's Comprehensive System Planning Processes

- ◆ Reliability Planning

- *Approved by FERC in 2004*

- ◆ Economic Planning

- *Approved by FERC in 2008*

- ◆ Public Policy Transmission Planning

- *New process -- Approved by FERC in 2014*

- ◆ Interregional Planning

- *A consensus from two or more regions is required to include interregional transmission projects in regional plan for cost allocation – Approved by FERC in 2015*



Reliability Planning

- ◆ **Step 1: Reliability Needs Assessment (RNA)**
 - *10-year planning horizon*
 - *Identifies needs to comply with planning criteria*
- ◆ **Step 2: Comprehensive Reliability Plan (CRP)**
 - *10-year planning horizon*
 - *Market-based solutions (Preferred)*
 - *Regulated backstop solutions (Transmission Owner obligation if markets do not address needs)*
 - *Transmission, Generation, Demand Response all eligible (NYISO evaluates all resources for viability & sufficiency)*
 - *NYISO evaluates and selects a transmission project based on efficiency and cost effectiveness*
 - *“Beneficiaries Pay” cost allocation and cost recovery*

Economic Planning

Congestion Assessment & Resource Integration Study (CARIS)

◆ Phase I: Generic Study

- *10-year planning horizon*
- *Identification and ranking of congested elements and corridors*
- *Develop 3 generic solutions (transmission, generation, demand response) to mitigate identified congestion*
- *Provide costs and benefits analysis as an information to interested parties*

◆ Phase II: Specific Project Evaluation

- *20-year planning horizon*
- *Perform cost-benefit analysis of proposed economic transmission projects to determine eligibility for cost recovery*
- *“Beneficiaries Pay” cost allocation and cost recovery – Need 80% supermajority for approval (Only ISO/RTO to adopt elements of Hogan’s Argentine Model)*

Hogan's Argentine Model

A framework to incorporate “lumpy” transmission investments into electricity markets*

- ◆ **Major Expansion of Transmission by “Public Contest” Method**
 - **Overcoming market failure without overturning markets**
 - Regulator applies the “Golden Rule” (Cost Benefit Test). Use the same economic cost benefit analysis to identify expected beneficiaries
 - 30%-30% Rule. At least 30% of beneficiaries must be proponents. No more than 30% of beneficiaries can be opponents.
 - Assign costs to beneficiaries with mandatory participant funding
 - Award either Auction Revenue Rights or Long Term FTRs to beneficiaries with costs

* William W. Hogan, 27th USAEE/IAEE North American Conference, Houston, Texas, September 18, 2007

Public Policy Transmission Planning Process (PPTPP)

- ◆ **Phase I: Identify Needs and Solicit Solutions**
 - *NYSPSC identifies transmission needs driven by public policy*
 - *NYISO solicits solutions (transmission, generation, & demand response)*
 - *NYISO evaluates all solutions for viability and sufficiency to meet the need*
- ◆ **Phase II: Transmission Evaluation and Selection**
 - *NYPSC confirms transmission need after considering the results of the NYISO's viability & sufficiency analysis*
 - *NYISO evaluates proposed transmission solutions, calculates benefits and costs, and identifies the more efficient or cost effective transmission solution*
 - *MMU assesses the potential market impacts of transmission solutions*
 - *NYISO Board may select a transmission solution for cost allocation*
 - *"Beneficiaries Pay" cost allocation and cost recovery*

Public Policy Transmission Needs



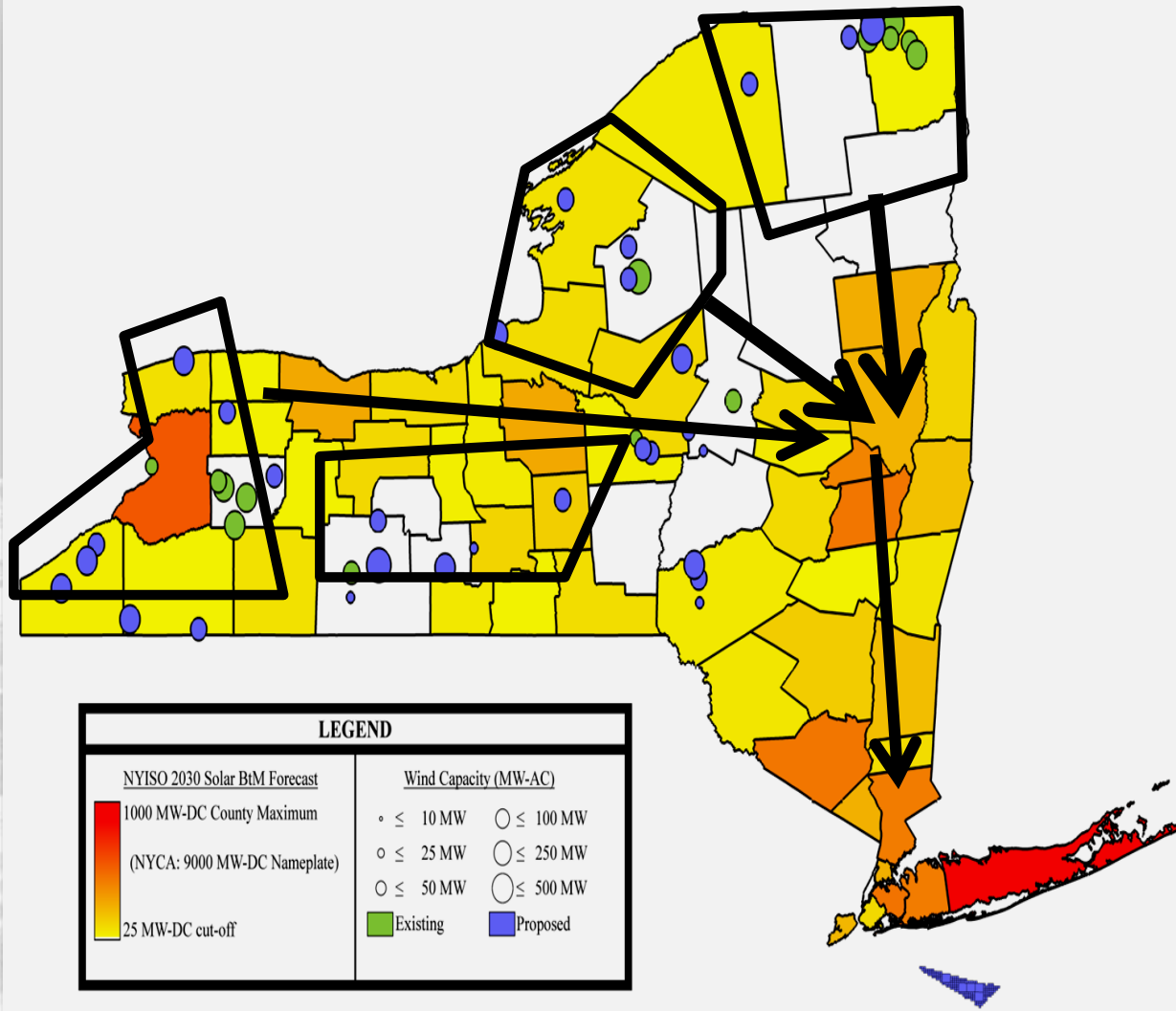
Western New York Public Policy Transmission Need

- Transmission constraints affect Niagara generation & Ontario Imports
- **July 2015** -- PSC Order identified Western New York as a Public Policy Transmission Need

Central East Transmission Upgrades

- **Sept. 2015** -- DPS staff recommended two transmission segments for AC transmission upgrades
- **Dec. 2015** -- PSC expected to consider DPS recommendation & may identify a public policy transmission need

Upstate Renewable Resources & Downstate Energy Needs



New York State Energy Plan Goals (by 2030)

- ♦ 40% Reduction in greenhouse gas emissions compared to 1990
- ♦ 50% electricity generation from renewable energy sources
- ♦ 600 TBTU increase in statewide energy efficiency

Interregional Planning

- **Based on the Northeast ISO/RTO Planning Coordination Protocol and its stakeholder process**
 - *A formal procedure for the “identification and joint evaluation of interregional facilities that may be more efficient or cost-effective solutions to regional needs”*
 - *Transparency and sharing of information, data and regional needs and potential conceptual interregional solutions.*
- **Specific Procedures**
 - *A developer must first propose an interregional project in each regional planning process*
 - *The interregional evaluation must be conducted in the “same general timeframe” as the regional evaluations*
 - *An interregional project must first be selected in both of the regional planning processes in order to receive interregional cost allocation*

Interregional Cost Allocation

- ◆ Region A has identified Transmission Project X to meet a Reliability Need identified in its regional planning process at Cost (X)
- ◆ Region B has identified Transmission Project Y to meet a Reliability Need identified in its regional planning process at Cost (Y)
- ◆ Regions A & B through their interregional planning process have determined that Interregional Transmission Project Z at Cost (Z) will address the Reliability Needs in both regions “more efficiently and cost effectively” than the separate regional Transmission Projects X & Y
 - *The Cost of Project Z is less than the combined cost of Projects X & Y*
- ◆ Regions A & B have each determined that Interregional Project Z is the preferred solution to their individual Reliability Needs and have each adopted that project in their respective Regional Plans replacing Projects X & Y respectively
- ◆ Regions A & B will be cost allocated at each of their avoided costs

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.

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