

# Updates on NYISO's Comprehensive System Planning Process

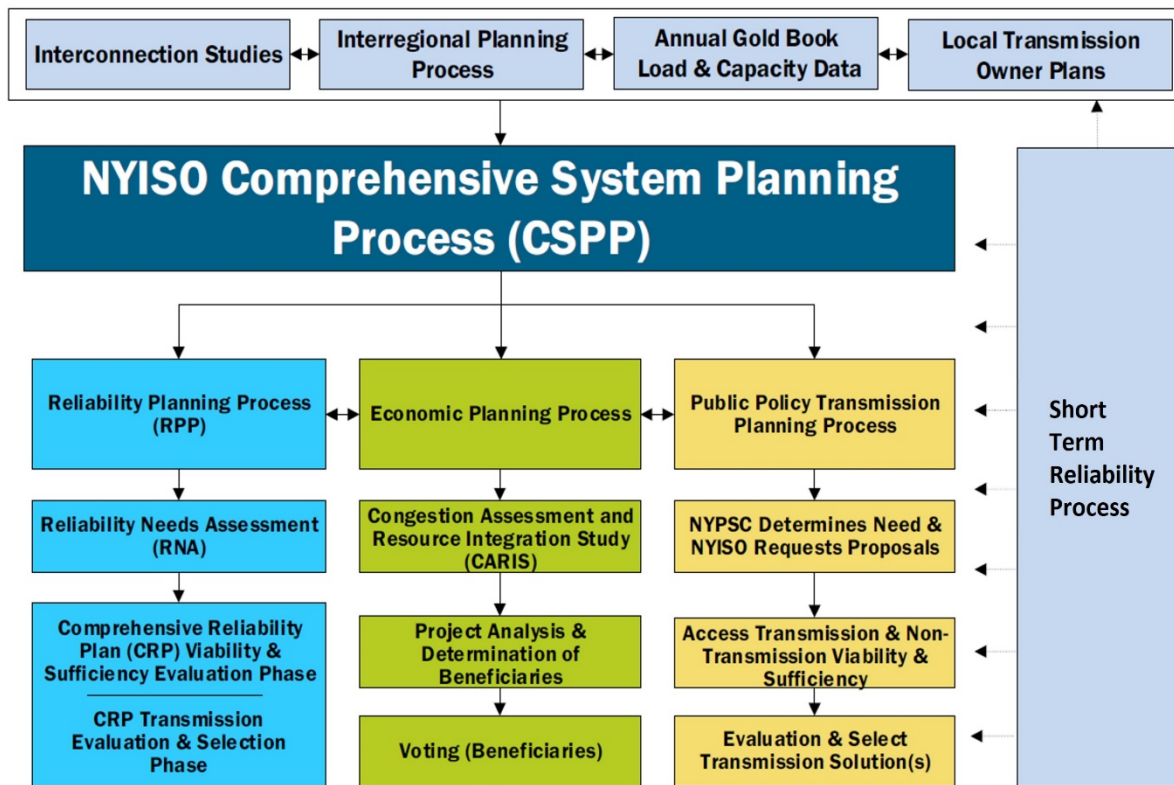
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**Interregional Planning Stakeholder Advisory Committee (IPSAC) Meeting**

December 14, 2020



# Reliability Planning Process

- **Two-year process starting in even years**
- **Reliability Needs Assessment (RNA)**
  - Evaluates the adequacy and security of the Bulk Power Transmission Facilities over a seven-year Study Period (years four through ten of the next ten years), and identifies Reliability Needs
  - Reliability Needs are defined as violations of Reliability Criteria (*i.e.*, NERC, NPCC and NYSRC)
- **Comprehensive Reliability Plan (CRP)**
  - Develops a plan to satisfy the Reliability Needs identified in RNA, if any

# 2020 Reliability Needs Assessment

- **Incorporates impacts of Peaker Rule into base case reliability analysis.**
  - New York State Department of Environmental Conservation (DEC) adopted a regulation to limit nitrogen oxides (NOx) emissions from simple-cycle combustion turbines (“Peaking Units”) (referred to as the “Peaker Rule”)
  - The Peaker Rule required all impacted plant owners to file compliance plans by March 2, 2020
- **Includes a scenario evaluating the impacts of 70 percent of energy produced from renewable resources by 2030 (“70 by 30”) for both Transmission Security and Resource Adequacy.**
- **Final 2020 RNA report is available.**
  - The 2020 RNA has identified violations or potential violations of reliability criteria (“Reliability Needs”) in the base case throughout the entire study period (2024-2030) due to dynamic instability, transmission overloads, and resource deficiencies. The issues identified are primarily driven by a combination of forecasted peak demand and the assumed unavailability of certain generation in New York City affected by the “Peaker Rule”

<https://www.nyiso.com/documents/20142/2248793/2020-RNAReport-Nov2020.pdf>

# Proposed Projects Included in the 2020 RNA Base Case

Queue #	Project Name	Zone	Point of Interconnection	Summer Peak (MW)	2020 RNA Commercial Operation Date
<b>Proposed Transmission Additions, other than Local Transmission Owner Plans</b>					
Q545A*	Empire State Line	A	Dysinger - Stolle 345kV	n/a	6/2022
556	Segment A Double Circuit	E,F	Edic - New Scotland 345kV	n/a	12/2023
543	Segment B Knickerbocker-Pleasant Valley 345 kV	F,G	Greenbush - Pleasant Valley 345kV	n/a	12/2023
430	Cedar Rapids Transmission Upgrade	D	Dennison - Alcoa 115kV	80	10/2021
System Deliverability Upgrades*	Leeds-Hurley SDU	F,G	Leeds- Hurley SDU 345kV	n/a	summer 2021
<b>Proposed Generations Additions</b>					
387*	Cassadaga Wind	A	Dunkirk - Moon Station 115 kV	126.5	12/2021
396	Baron Winds	C	Hillside - Meyer 230kV	238.4	12/2021
422	Eight Point Wind Energy Center	B	Bennett 115kV	101.8	12/2021
505	Ball Hill Wind	A	Dunkirk - Gardenville 230kV	100.0	12/2022
546	Roaring Brook Wind	E	Chases Lake Substation 230kV	79.7	12/2021
678	Calverton Solar Energy Center	K	Edwards Substation 138kV	22.9	12/2021
<b>MW Additions from 2019-2028 CRP</b>				543	
<b>Total MW generation additions</b>				669	
*also included in the 2019-2028 CRP Base Cases					

# Generator Status Update

Generator Status Updates from March 15, 2020 through November 1, 2020

Generating Unit	Zone	Current Generator Status	Date of Generator Status Change, if applicable	Initial Testing Date, if applicable	Generator Deactivation Assessment/Short-Term Assessment of Reliability Start Date, if applicable	Generator Deactivation Assessment/Short-Term Assessment of Reliability Completion Date, if applicable	PSC Retirement/Mothball Notice Date, if applicable	Proposed Retirement/Mothball Date, if applicable	Rescinded Notice Date, if applicable	Notes
Cayuga 1	C	Retired	06/04/2020		03/02/2020	04/08/2020	2/17/2020	*5/17/2020		*Pending PSC approval Per the NYISO's Generator Deactivation Process, the earliest date on which the Generator might retire is 06/01/20.
INDIAN POINT__2	H	Retired	04/30/2020		11/13/2017	12/13/2017	10/30/2019	04/30/2020		
INDIAN POINT__3	H	In Service			11/13/2017	12/13/2017	10/30/2019	04/30/2021		
KINTIGH____	A	Retired	03/31/2020		12/12/2019	03/04/2020	11/15/2019	02/15/2020*		*Per the NYISO's Generator Deactivation Process, the earliest date on which the Generator might retire is 03/12/2020.
Cayuga 2	C	Retired	06/04/2020		03/02/2020	04/08/2020	02/17/2020	*5/17/2020		*Pending PSC Approval Per the NYISO's Generator Deactivation Process, the earliest date on which the Generator might retire is 06/01/2020.
West Babylon 4	K	In Service			04/23/2020	06/19/2020	01/23/2020	12/12/2020		
Glenwood GT 01	K	In Service			07/15/2020	10/13/2020	03/16/2020	02/28/2021		
Dahowa Hydroelectric	F	In Service	04/30/2020							
Albany LFGE	F	ICAP Ineligible Forced Outage	07/01/2020		07/15/2020	10/13/2020				On July 12, 2019, the NYISO deemed complete a Generator Deactivation Notice for the Retirement of Albany LFGE. The Generator Deactivation Assessment for the Retirement of this unit was completed on September 20, 2019 and concluded that a Generator Deactivation Reliability Need was not identified. On July 1, 2020 this unit was placed on IIFO.
HUDSON AVE_GT_3	J	In Service	07/10/2020							

Status of generators is reviewed and updated on a monthly basis:

<https://www.nyiso.com/ny-power-system-information-outlook?folderPath=public/planning/NY-Power-System-Information-and-Outlook/Generator-Status-Updates>

# Local Transmission Owner Plans (LTP)

- **The NYISO's Comprehensive System Planning Process (CSPP) begins with the Local Transmission Owner Planning Process (LTPP). The LTPP allows interested parties to examine the transmission system plans of each of the New York Transmission Owners individually.**
- **Local Transmission Owner Planning Process (LTPP) link:**
  - <https://www.nyiso.com/documents/20142/3632262/Local-Transmission-Owner-Planning-Process-LTPP.pdf>
- **2020 Load and Capacity Data Report (Gold Book) containing BPTF LTPs and firm non-BPTF LTPs (Section VII)**
  - <https://www.nyiso.com/documents/20142/2226333/2020-Gold-Book-Final-Public.pdf>

# Existing transmission facilities modeled out-of-service

- Con Edison's B3402 and C3403 345 kV cables with no return date
- Moses-St. Lawrence L33P through fall 2022



# Short-Term Reliability Process (STRP)

- The STRP uses quarterly Short-Term Assessments of Reliability (STAR) studies to assess the reliability impacts of generator deactivations on both BPTF and non-BPTF transmission facilities, in coordination with the responsible transmission owner(s)
- The STAR is also used by the NYISO, in coordination with the responsible transmission owner(s) to assess the reliability impacts of other system changes on the BPTF
- Each STAR assesses a five-year period with a particular focus on needs that are expected to arise in the first three years of the study period
  - Needs that arise in years four or five may be addressed in the STRP or RPP

# Short-Term Reliability Process (STRP)

- **Short-Term Reliability Process webpage is now online**

<https://www.nyiso.com/short-term-reliability-process>

- **Final Short-Term Assessment of Reliability (STAR): 2020 Quarter 3 report is available.**

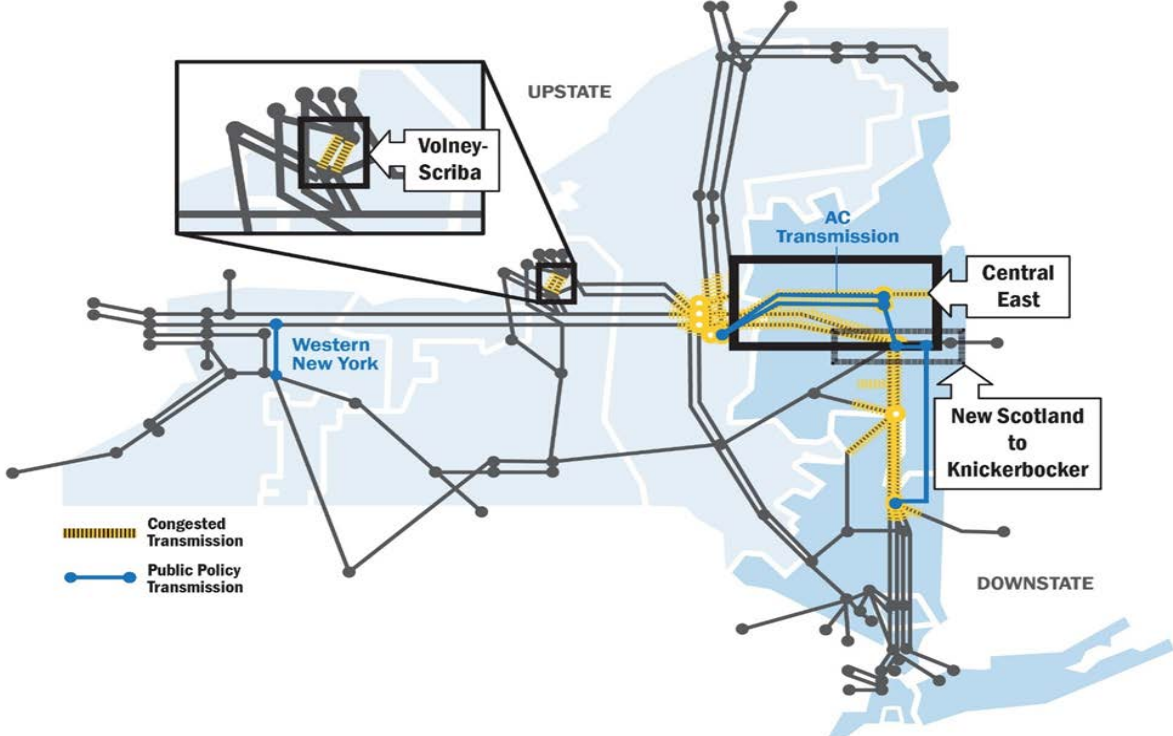
- The assessment identifies short-term needs starting in 2023 and increasing in scope and scale through 2025. The short-term needs include both thermal overloads on the bulk system as well as dynamic instability. The issues identified are primarily driven by a combination of forecasted peak demand and the assumed unavailability of certain generation in New York City affected by the New York State Department of Environmental Conservation's "Peaker Rule"  
<https://www.nyiso.com/documents/20142/16004172/2020-Q3-STAR-Report-vFinal.pdf>
- The NYISO plans to solicit a regulated non-generation solution solely from Con Edison for the Near-Term Reliability Needs in 2023. The NYISO will also solicit market-based and other permitted solutions to the 2023 needs
- The needs observed in years 2024 and 2025 are identical to those identified in the 2020 RNA, and will be addressed in the long-term Reliability Planning Process

[https://www.nyiso.com/documents/20142/17044621/2020Q3STAR\\_NearTermReliabilityNeedExplanatoryStatement\\_vFinal.pdf](https://www.nyiso.com/documents/20142/17044621/2020Q3STAR_NearTermReliabilityNeedExplanatoryStatement_vFinal.pdf)

# 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 three top congested locations in NYCA
    - Develop generic solutions – transmission, generation, demand response, and energy efficiency
    - Provide information to developers and marketplace
  - **Phase II: Specific Project & Additional Studies**
    - **Specific Projects**
      - Transmission projects seeking regulated cost recovery under NYISO Tariff
      - Eligibility threshold: Cost over \$25M, benefit/cost ratio over 1.0, load payment saving over cost, 80% beneficiary vote
    - **Additional CARIS Studies**
      - Assumptions and scenarios customizable
      - Confidential except for basic information

# 2019 CARIS Phase 1: Congestion Groupings



# Status of CARIS

- **The 2019 CARIS Phase 1 Final Report**
  - Presented to the Management Committee (MC) on July 1, 2020
  - Approved by the NYISO Board on July 24, 2020
- **Top three congested groupings:**
  - Central East Interface
  - Central East – New Scotland – Knickerbocker 345kV
  - Volney – Scriba 345kV
- **A scenario studying 70% of NY energy consumption from renewables by 2030 (70x30) is included**
- **The NYISO is currently finalizing the 2020 CARIS Phase 2 database**



# Economic Planning Process Changes

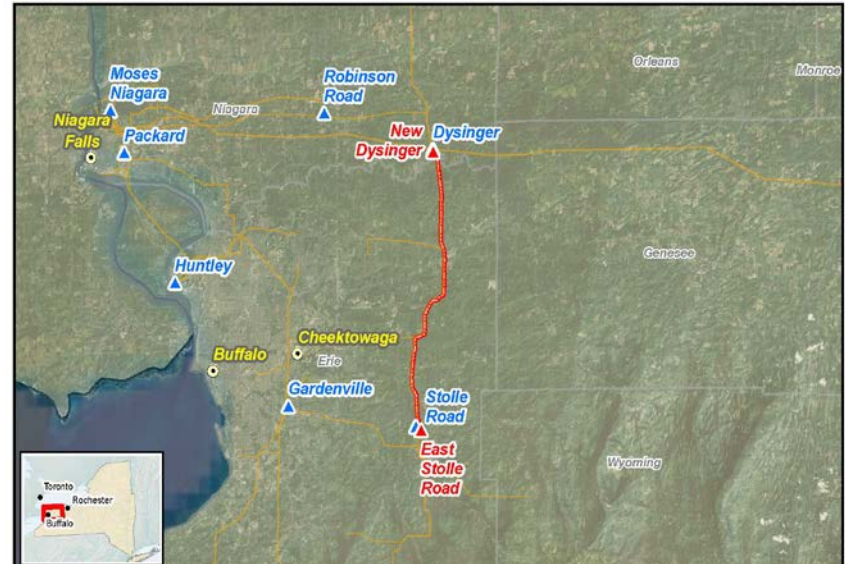
- **Tariff and process revisions under discussion with stakeholders for implementation in 2021**
- **The NYISO staff recognizes the limitations of the existing process, and proposes to streamline the approach and expand the scope to provide a more comprehensive analysis of the rapidly changing New York energy landscape. The revisions include changes to:**
  - provide useful information to market participants, developers, and policymakers regarding the transmission system's ability to efficiently deliver energy from the future generation resource mix to the forecasted load across the state;
  - expand the assessments to cover a more meaningful study period of 20 years consistent with the study period for any proposed transmission projects in the Economic or Public Policy Planning Processes; and
  - remove overly restrictive language that requires much labor by NYISO staff for fairly little value, such as the evaluation of generic solutions to the same “top three” congested paths each cycle.

# Public Policy Transmission Planning Process (PPTPP)

- **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 holds Technical Conference and solicits solutions (transmission, generation, or EE/DR)
  - NYISO performs Viability and Sufficiency Assessment (VSA)
- **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 Project Selection

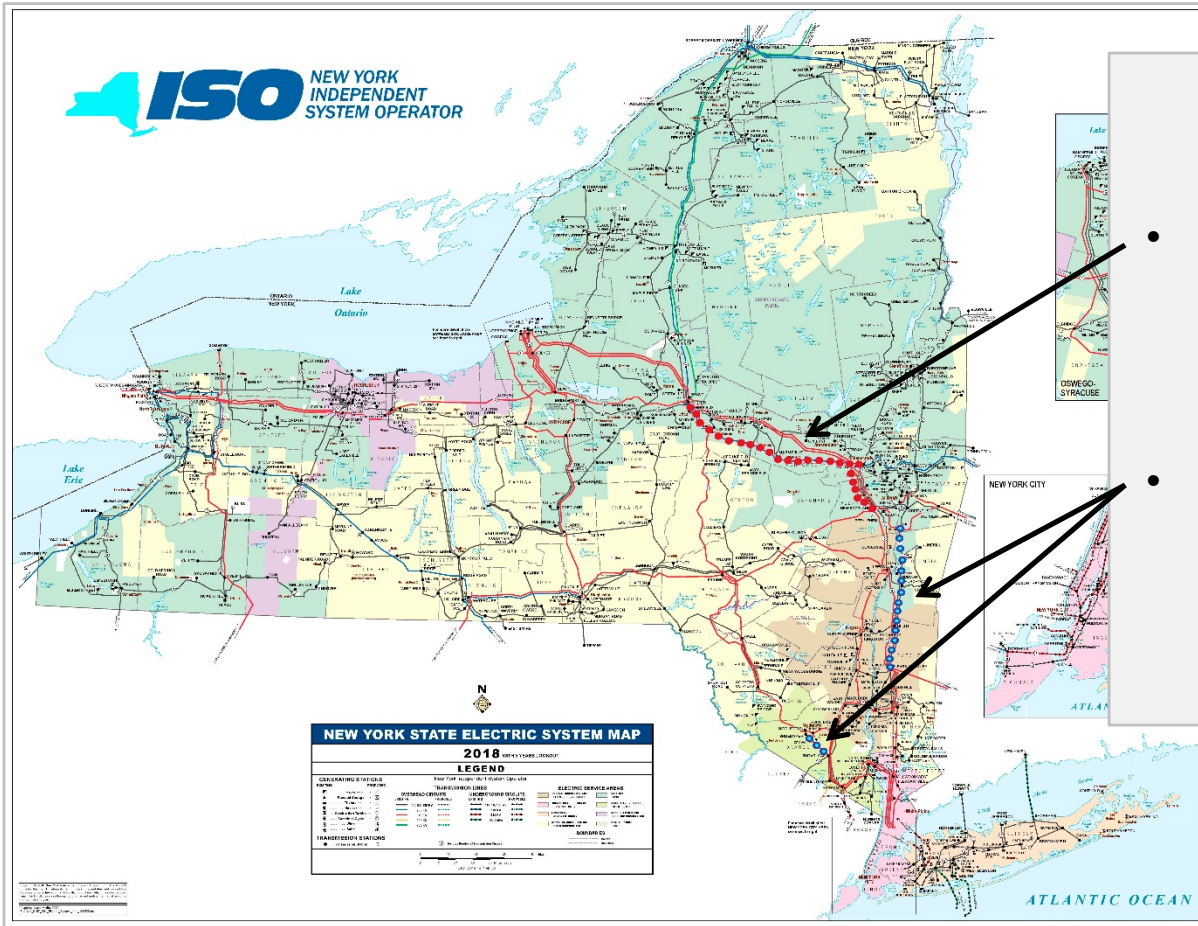
- NYISO staff recommended Empire State Line Proposal 1 (T014), proposed by NextEra Energy Transmission New York, as the more efficient and cost effective solution.
- In October 2017, the NYISO Board of Directors selected the NextEra project.
- Final Western NY report is posted at:  
<https://www.nyiso.com/documents/20142/1396391/Western%20New%20York%20Public%20Policy%20Transmission%20Planning%20Report.pdf>





# AC Transmission Project Selection

- In April 2019, the NYISO Board of Directors selected the Segment A Double-Circuit project, proposed jointly by North American Transmission (“NAT”) and the New York Power Authority (“NYPA”), as the more efficient or cost effective solution for Segment A. The Board also concluded that for Segment B, the more efficient or cost effective solution is the New York Energy Solution (NYES) Segment B project, which was jointly proposed by the Niagara Mohawk Power Corporation d/b/a National Grid (“National Grid”) and the New York Transco, LLC (“Transco”)
- Final AC Transmission report is posted at:  
<https://www.nyiso.com/documents/20142/5990681/AC-Transmission-Public-Policy-Transmission-Plan-2019-04-08.pdf>



## AC TRANSMISSION PROJECT SELECTION

- Segment A: T027 (Central East)
  - New double-circuit Edic to New Scotland 345 kV line
  - Decommission Porter to Rotterdam 230 kV lines
  - 115/230/345 kV connection to Rotterdam
- Segment B: T019 (UPNY/SENY)
  - New Knickerbocker to Pleasant Valley 345 kV line
  - Rock Tavern substation terminal upgrades
  - Shoemaker - Sugarloaf 138 kV line

# Interregional Coordination

- **Through the NYISO's Transmission Interconnection Procedures, the NYISO also coordinates with neighboring regions to identify the impact, if any, of the Public Policy Transmission Projects on the neighboring regions**
  - System Impact Studies have been completed for the selected Western NY and AC Transmission projects
  - Facilities Study has been completed for the selected Western NY project
  - Facilities Studies are being performed for the selected AC Transmission projects to finalize the Network Upgrade Facilities including the upgrades to address New York-New England transfer degradation

# Future Public Policy Transmission Needs

- ◆ **The NYISO initiated the 2020-2021 PPTPP cycle in August 2020 by issuing a solicitation for proposed transmission needs driven by Public Policy Requirements**
- ◆ **15 entities proposed transmission needs (posted at link below). The NYISO filed the proposals with the NYPSC and forwarded to LIPA for its consideration those proposals that would involve construction of transmission on Long Island**  
<https://www.nyiso.com/cspp>
- ◆ **If the NYPSC determines that there is a need for transmission, the NYISO will solicit projects from developers to satisfy that need**

# Stakeholder Material

- The NYISO Comprehensive System Planning Process is regularly discussed at the Electric System Planning Working Group (ESPWG) and Transmission Planning Advisory Subcommittee (TPAS).
  - <https://www.nyiso.com/espwg>
  - <https://www.nyiso.com/tpas>
- Study documentation is available at:
  - <https://www.nyiso.com/cspp>

# Questions?

# Our mission, in collaboration with our 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 policymakers, stakeholders and investors in the power system

