New York ISO
Independent System Operator

Updates on NYISO's Comprehensive System Planning Process

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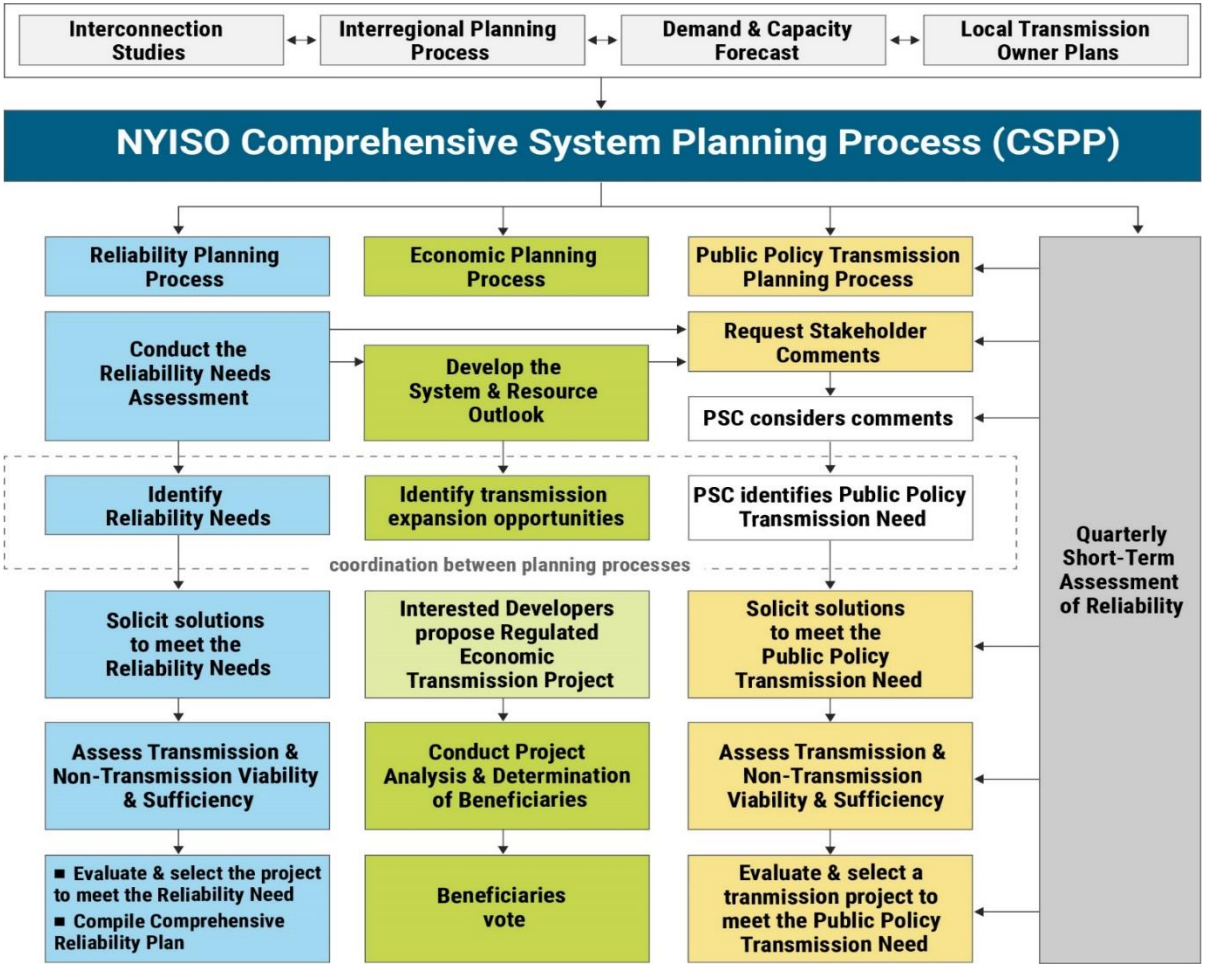
Interregional Planning Stakeholder Advisory Committee (IPSAC) Meeting

May 23, 2022



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Reliability Planning Process (RPP)

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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 (BPTF) 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) on the BPTFs
  - Identifies risks to the plan, and includes scenarios simulated for informing the risks
- Comprehensive Reliability Plan (CRP)
  - Develops a plan to satisfy the Reliability Needs identified in RNA, if any
  - Identifies risks to the plan, and could include additional scenarios simulated for informing the risks

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2022 RNA Key Findings

- The 2022 RNA concluded that the New York State Bulk Power Transmission Facilities as planned will meet all currently applicable reliability criteria from 2026 through 2032 for the assumed future system demand and with the assumed planned projects meeting their proposed in-service dates.
- While the RNA did not identify any long-term actionable Reliability Needs, the resource adequacy and transmission security margins are tightening across the New York grid through time.
  - New York will likely experience even smaller margins if additional power plants become unavailable or if demand is greater than forecasted
  - If the margins are totally depleted, the risk of a reliability violation is increased
  - The margins for transmission security are narrower than the margins for resource adequacy
- Additional risk factors beyond the assumptions in the 2022 RNA (e.g., climate, economic, regulatory, and policy drivers) may accelerate the narrowing or depletion of these reliability margins.
  - Extreme conditions like heat waves could result in deficiencies to serve demand statewide and transmission security deficiencies in New York City
- Final report can be found here and appendices found here

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2023-2032 Comprehensive Reliability Plan

- While there was no Reliability Need identified in the 2022 RNA, the 2023-2032 CRP will continue to build on the scenarios and topics from the 2022 RNA under key topics such as [link]:
  - Gas shortage/Constraints during winter cold snaps
  - Extreme weather
  - Integration of large load scenarios
  - Near-term reliability risks
- Anticipated completion by Q4 of 2023

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Generator Status Update

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Generator Status Update

Generator Status Updates from March 15, 2022 through April 1, 2023										
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***
Ravenswood GT 11	J	ICAP Ineligible Forced Outage	12/01/2021		01/15/2022	04/15/2022	03/31/2022	05/01/2023		As of April 1, the NYISO does not have a complete Generator Deactivation Notice for the retirement of this Unit.
Ravenswood GT 1	J	ICAP Ineligible Forced Outage	01/01/2022		01/15/2022	04/15/2022	03/31/2022	05/01/2023		As of April 1, the NYISO does not have a complete Generator Deactivation Notice for the retirement of this Unit.
Madison County LF	E	ICAP Ineligible Forced Outage	04/01/2022		04/15/2022	07/14/2022				
Nassau Energy Corporation	K	Retired	07/15/2022		04/15/2022	07/14/2022	01/28/2022	3/31/2022*		*Per the NYISO's Generator Deactivation Process, the earliest date on which the Generator might retire is 7/15/22.
Hudson Ave 3	J	Retired	11/01/2022		04/15/2022	07/14/2022		11/01/2022		
Hudson Ave 5	J	Retired	11/01/2022		04/15/2022	07/14/2022		11/01/2022		
74th St. GT 1	J	In Service			04/15/2022	07/14/2022		05/01/2023		
74th St. GT 2	J	In Service			04/15/2022	07/14/2022		05/01/2023		
Dunkirk 1	A	Retired	04/29/2022				04/29/2022	04/29/2022		
Dunkirk 3	A	Retired	04/29/2022				04/29/2022	04/29/2022		
Dunkirk 4	A	Retired	04/29/2022				04/29/2022	04/29/2022		
SITHE__BATAVIA	B	In Service			01/15/2022	04/15/2022		05/02/2022	04/25/2022	
Calverton Solar	K	In Service	06/02/2022							
Ravenswood GT 10	J	In Service			07/15/2022	10/13/2022		05/01/2023		
Glenwood GT 01	K	Load Modifier	03/20/2021							
West Babylon 4	K	Load Modifier	05/01/2021							
Gowanus 1-1	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-2	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-3	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-4	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-5	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-6	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-7	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 1-8	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		

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

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Generator Status Update

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Gowanus 4-1	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-2	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-3	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-4	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-5	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-6	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-7	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Gowanus 4-8	J	Retired	11/01/2022		04/15/2022	07/14/2022	12/16/2021	11/01/2022		
Astoria GT 2-1	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 2-2	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 2-3	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 2-4	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 3-1	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 3-2	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 3-3	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 3-4	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 4-1	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 4-2	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 4-3	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
Astoria GT 4-4	J	In Service			04/15/2022	07/14/2022	02/22/2022	05/01/2023		
ALLEGHENY__COGEN	B	In Service			01/15/2022	04/15/2022		05/02/2022	07/07/2022	
PUCKETT___SOLAR	C	In Service	09/27/2022							
SITHE__STERLING	E	In Service			01/15/2022			05/02/2022	10/17/2022	
Astoria GT 1	J	In Service			10/15/2022	01/13/2023		05/01/2023		
BARON_WINDS___WT_PWR	C	In Service	11/29/2022							
REGAN___SOLAR	F	In Service	12/07/2022	12/07/2022						
EIGHT_POINT___WT_PWR	C	In Service	12/21/2022	12/21/2022						
NORTH___COUNTRY_ESR	D	In Service	02/01/2023	02/01/2023						
GRISSOM___SOLAR	F	In Service	02/16/2023	02/16/2023						
JANIS___SOLAR	C	In Service	02/23/2023	02/23/2023						
NUMBER_THREE_WT_PWR	E	In Service	03/22/2023	03/22/2023						
Albany LFGE	F	In Service	11/05/2022							

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

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Local Transmission Owner Plans (LTP)

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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
- 2023 Load and Capacity Data Report (Gold Book) containing BPTF LTPs and firm non-BPTF LTPs (Section VII)
  - 2023 Gold Book

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Short-Term Reliability Process (STRP)

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

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Short-Term Reliability Process (STRP)

- 2023 Quarter 1 STAR
  - The assessment did not identify any Short-Term Reliability Needs
  - The report is available at [link]
- 2023 Quarter 2 STAR
  - Study period April 15, 2023 - April 15, 2028
  - Study Assumptions can be found at [link]
  - Anticipated completion by July 14, 2023

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Economic Planning Process (EPP)

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Economic Planning Process

- **System & Resource Outlook (“The Outlook”)**
  - Performed in alternate years to the RNA
  - 20-year study of system and congestion
  - Identifies, ranks, and groups congested elements
  - Assesses the potential benefits of addressing the identified congestion
  - Provides information to developers and marketplace regarding future challenges in the New York power system
- **Economic Transmission Project Evaluation (ETPE)**
  - Evaluation by the ISO of a Regulated Economic Transmission Project (RETP)
    - Transmission projects seeking regulated cost recovery under NYISO Tariff
    - Eligibility threshold: Cost over $25M, benefit/cost ratio over 1.0, load payment savings over cost, 80% beneficiary vote
- **Requested Economic Planning Study (REPS)**
  - Study performed solely for informational purposes by the ISO at the request of a stakeholder or other interested party at their expense
    - Assumptions and scenarios customizable
    - Confidential except for posting of limited information about the study request

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2021-2040 System & Resource Outlook

- Key Findings:
  - The pace of renewable project development is unprecedented and requires an increase in the pace of transmission development.
  - Significant new resource development (at least 95 GW by 2040) will be required to achieve CLCPA energy targets. Coordination of project additions and retirements is essential to maintaining reliability and achieving policy.
  - To achieve an emission-free grid, dispatchable emission-free resources (DEFRs) must be developed and deployed throughout New York.
  - As the energy policies in neighboring regions evolve, New York's imports and exports of energy could vary significantly due to the resulting changes in neighboring grids.
  - Transmission limitations prevent full delivery of renewable energy. Transmission expansion is critical to facilitating efficient CLCPA energy target achievement, particularly in the Finger Lakes, Southern Tier, Watertown, and Long Island pockets.
- Study summary can be found here and the full report can be found here
- NYISO will begin stakeholder discussions for 2023-2042 System & Resource Outlook

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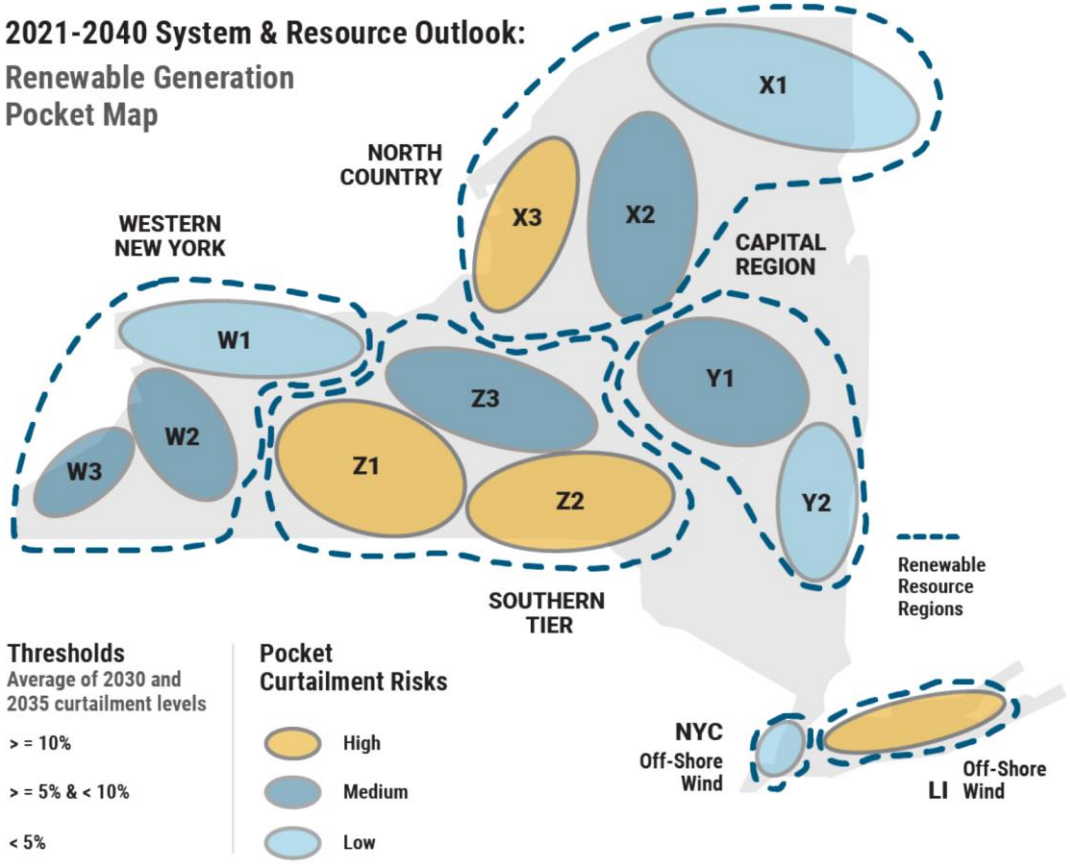
2021-2040 System & Resource Outlook:

Renewable Generation Pocket Map



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Public Policy Transmission Planning Process (PPTPP)

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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
    - 2022 needs posted at https://www.nyiso.com/cspp -> Public Policy Documents -> Proposed Needs
  - 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

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Long Island Offshore Wind Export Public Policy Need

- "The CLCPA constitutes a Public Policy Requirement driving the need for:
  - Adding at least one bulk transmission intertie cable to increase the export capability of the LIPA-Con Edison interface, that connects NYISO's Zone K to Zones I and J to ensure the full output from at least 3,000 MW of offshore wind is deliverable from Long Island to the rest of the State; and
  - Upgrading associated local transmission facilities to accompany the expansion of the proposed offshore export capability.
  - Ensure no transmission security violations, thermal, voltage or stability, would result under normal and emergency operating conditions"

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Long Island Offshore Wind Export Update

- 19 projects were proposed by four Developers
- NYISO completed Viability & Sufficiency Assessment and identified 16 Public Policy Transmission Projects that are Viable and Sufficient [report link]
- NYISO has discussed results with stakeholders and anticipates completing the evaluation in first half of 2023

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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
  - Facility Studies have been completed for the selected Western NY and AC Transmission projects, including identification of the upgrades to address New York-New England transfer degradation caused by Segment B project
  - System Impact Studies are underway for the LI PPTN transmission projects

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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

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Questions?

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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

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