New York ISO
Independent System Operator

Economic Planning: Process Improvement

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Agenda

- Background
- Objectives & Timeline
- Potential Areas for Improvement
- Q & A
- Next Steps

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Background

- **In response to FERC Order 890, Economic Planning Process was added to the NYISO planning process**
- **CARIS is the only component:**
  - Phase 1: assess both historic and projected congestion on the New York bulk power system and estimates the economic benefits of relieving congestion
  - Phase 2: conduct benefit/cost assessment for each specific transmission project that is submitted by Developers who seek regulated cost recovery under the NYISO's Tariff

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Objectives & Timeline

- **Discussion of potential areas for improvement in the economic planning process** — Today
- Discussion of ideas on process improvements to resolve inefficiencies — 8/31 TPAS
- Strawman proposal of tariff changes to NYISO OATT Attachment Y § 31.3 — 9/24 ESPWG
- Tariff revision review — Oct-Nov
- BIC & MC vote on tariff amendments to be implemented through a Federal Power Act Section 205 filing — Dec

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Potential Areas for Improvement

Base Case Assumptions

- **Base case set up is required to be consistent with the most recent Reliability Planning Process**
  - Strict inclusion rules applicable to reliability planning may not be entirely appropriate for economic planning
- **Base setup may not accurately reflect the future system conditions**
  - 2019 CARIS Phase 1 base case included Somerset in-service, and did not consider the impact of peaker compliance plans
- **Policy driven assumptions not incorporated as part of base case**
  - 2019 CARIS Phase 1 developed 70x30 scenario for informational purposes

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Base Case Reliability Screening

- **CARIS Phase 1 database required additional reliability screenings**
  - When incremental system updates were made, such as the new load forecast and change in generation status, this required time consuming reliability screenings to ensure the CARIS 1 database met reliability criteria

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Study Period

- 10-year study period not aligned with realistic transmission project build cycles
- Database requires 10-year extension during CARIS 2 project phase

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of Transmission Paths Evaluated

- **Limited to three potential studies**
  - Three studies are mandated, no more and no less.
  - Studies are only based on demand congestion relief and production cost savings, not considering any other metrics
  - Three studies in 2019 CARIS Phase 1: Central East, Central-East-Knickerbocker, and Volney-Scriba. Other constraints, such as Dunwoodie/Sprainbrook and other local transmission facilities, were not investigated.

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Generic Solutions

- **Rigid requirement and diminishing values in analyzing generic solutions**
  - Four generic solutions have to be studied: transmission, generation, DR, and EE
  - Cost ranges could be very wide, and there is no flexibility in designing potential solutions
- **Generic solutions are assumed to be in-service in Year 1**
  - Unrealistic assumption that any solutions can be in-place overnight while firm system updates on transmission and generation still occur in the following years

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ICAP Metric

- **Methodology described in detail in OATT Attachment Y Section 31.3.1.3.5.6.2**
- **ICAP cost calculation method outdated**
  - Current method accounts for latest available IRM and LCRs, zero crossing points, and reference points, then constructs zonal demand curves using those figures and assumed capacity totals
  - Not used for other capacity related calculations
- **Informational only, not included in the benefit-cost analysis**
  - Calculated in CARIS 1
  - Not calculated in CARIS 2 as part of project
  - Used in Public Policy Process

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Voting Criteria by Project Beneficiaries

- **Stringent voting criteria for Economic Transmission Projects**
  - B/C ratio greater than 1.0 based solely on the net present value of production cost savings in the first 10 years
  - Benefit only includes production cost
  - B/C ratio solely from the base case
  - 80% of identified beneficiary approval

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ISO Economic Study Benchmark

ISO	Economic Planning Process	Study Horizon (years)	Years Simulated	B/C Term (years)	B/C Threshold
NYISO	Congestion Assessment and Resource Integration Study (CARIS)	10	10	10	1.0
ISO-NE	Regional System Plan – Economic Studies	10	1	-	-
PJM	Regional Transmission Expansion Plan (RTEP)	10	4	15	1.25
IESO	Annual Planning Outlook	20	20	-	-
MISO	Market Congestion Planning Study (MCPS)	15	3	20	0.9/1.0
SPP	Integrated Transmission Plan (ITP10/ITP20)	10/20	2	40	1.0
ERCOT	Regional Transmission Plan (RTP) & Long Term System Assessment (LTSA)	10	3	*	1.0
CAISO	Transmission Plan	10	1	40-50	1.0

**annual production cost savings are compared to the first-year annual revenue requirement of the proposed project*

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Planning Process Alignment

- Present process is head to tail, lack opportunities to identify reliability, economic, and public policy transmission needs all together
- Needs from different planning processes could be identified based on different sets of assumptions

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Public Information Session

- A public information session is required based on manual
- If information has already been sufficiently disseminated in working group meetings (e.g. ESPWG and TPAS), and then committee meetings (e.g. BIC and MC)
- Limited attendance in the past cycles and have not received feedback historically
- Unclear where the value-add is

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Scenario Analysis

- Previous CARIS studies have required extensive scenario analysis to evaluate realistic issues NYCA is facing
  - 2017 CARIS Phase 1 “System Resource Shift” Scenario
  - 2019 CARIS Phase 1 “70x30” Scenario
- Generally provided more value to stakeholders than Base Case
- Given the significant amount of base case study work need to be completed as required by current tariff, the scenario analysis which could provide more valuable information to stakeholders are limited due to time and resource constraints

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Enhanced Metrics

- **Findings from "70 by 30" made evident that a more robust process and additional metrics are necessary to identify impediments to efficiently plan for state policy**
  - Renewable pocket analysis
  - Energy deliverability

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Future Applications of Economic Analysis

- Recent CARIS and Public Policy Transmission Planning studies have demonstrated the usefulness of production cost simulations for identifying potential future limitations on energy delivery, especially considering the evolving generation types and the resulting operating patterns
- Generators that could be constrained due to transmission limitations can be identified, along with the constrained transmission paths
- NYISO has started to identify the possibilities and methodologies to resolve these constraints
  - More information will be discussed at the 8/31 TPAS/ESPWG

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Next Steps

- **Collect stakeholder feedback**
  - Notes taken on verbal feedback today
  - Please send any additional written comments to LBullock@nyiso.com by Tuesday 8/25
- **8/31 TPAS/ESPWG Meeting**
  - Report stakeholder feedback
  - Present Economic Planning conceptual improvement proposals

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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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Questions?