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Independent System Operator

Comprehensive Mitigation Review

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ICAPWG

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Agenda

- Background
- Capacity Accreditation Proposal
- Additional Capacity Accreditation Tariff Revisions
- Additional BSM Tariff Revisions
- Additional Feedback
- Schedule
- Next Steps
- Appendix
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  - Capacity Accreditation Tariff Revisions
  - Other Tariff Revisions

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Previous Discussions

Date	Working Group	Discussion Points and Links to Materials
April 20, 2021	ICAPWG	Kick-off presentation discussing Preparing the Capacity Market for the Grid in Transition: https://www.nyiso.com/documents/20142/20839079/20210420%20NYISO%20-%20Preparing%20the%20Capacity%20Market%20for%20the%20Grid%20in%20Transition.pdf
June 3, 2021	ICAPWG	Buyer Side Mitigation Reforms Considerations: https://www.nyiso.com/documents/20142/21942500/20210603%20NYISO%20-%20BSM%20Reforms%20Consideration%20vFinal.pdf
June 30, 2021	ICAPWG	Working Group Schedule for Comprehensive Mitigation Review: https://www.nyiso.com/documents/20142/22643498/20210630%20NYISO%20-%20BSM%20and%20Capacity%20Accreditation%20Working%20Group%20Schedule.pdf
July 13, 2021	ICAPWG	Buyer Side Mitigation Reforms Proposal and Other Considerations: https://www.nyiso.com/documents/20142/22967297/20210713%20NYISO%20-%20BSM%20Reforms%20Proposal.pdf
August 5, 2021	ICAPWG	Buyer Side Mitigation Reforms Proposal: https://www.nyiso.com/documents/20142/23590734/20210805%20NYISO%20-%20BSM%20Reforms%20Proposal.pdf Review of Existing Capacity Accreditation Rules: https://www.nyiso.com/documents/20142/23590734/20210805%20NYISO%20-%20Capacity%20Accreditation%20Current%20Rules%20Final.pdf

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Previous Discussions (cont.)

Date	Working Group	Discussion Points and Links to Materials
August 9, 2021	ICAPWG	Buyer Side Mitigation Analysis Scope (Analysis Group): https://www.nyiso.com/documents/20142/23645207/Introductory%20Presentation%20Draft%2020210804.pdf Capacity Accreditation Design Principles (Potomac Economics): https://www.nyiso.com/documents/20142/23645207/20210730%20Potomac%20-%20Capacity%20Accreditation%20-%20Conceptual%20Framework-7-30-2021.pdf Capacity Accreditation Proposal: https://www.nyiso.com/documents/20142/23645207/20210809%20NYISO%20-%20Capacity%20Accreditation%20Straw%20Proposal.pdf
August 30, 2021 & August 31, 2021	ICAPWG	ELCC Concepts & Considerations for Implementation (E3): https://www.nyiso.com/documents/20142/24172725/NYISO%20ELCC_210820_August%2030%20Presentation.pdf Capacity Accreditation – Marginal vs. Average (Potomac Economics): https://www.nyiso.com/documents/20142/24172725/Capacity%20Accreditation%20-%20Marginal%20vs%20Average%20-%20for%20Aug%2030--08-25-2021.pdf Capacity Accreditation Proposal: https://www.nyiso.com/documents/20142/24172725/20210830%20NYISO%20-%20Capacity%20Accreditation_v10%20(002).pdf Overview of PJM MOPR Filing: https://www.nyiso.com/documents/20142/24172725/20210830%20NYISO%20-%20%20PJM%20MOPR.pdf

Previous Discussions (cont.)

Date	Working Group	Discussion Points and Links to Materials
September 9, 2021	ICAPWG	BSM Reform Proposal with Updates: https://www.nyiso.com/documents/20142/24415247/20210901%20NYISO%20-%20Updated%20BSM%20Proposal.pdf
September 17, 2021	ICAPWG	Complete Comprehensive Mitigation Review Proposal and BSM Tariff: https://www.nyiso.com/documents/20142/24717057/20210917%20NYISO%20-%20Comprehensive%20Mitigation%20Review%20Tariff%20discussion.pdf
September 20, 2021	ICAPWG	Evaluation of Changes in the BSM Rules on Financial Risk (Potomac Economics): https://www.nyiso.com/documents/20142/24717106/MMU%20Presentation%20re%20WACC%20Adjustment__9202021.pdf/cea28c17-c373-8c1e-44ec-c5b95082a4b9
September 27, 2021	ICAPWG	ELCC Allocation Methodologies (E3): https://www.nyiso.com/documents/20142/24899187/NYISO_ELCC_210922_September_27Presentation.pdf/30147074-ed72-467c-512e-58a792cc6c25
September 28, 2021	ICAPWG	Comprehensive Mitigation Review Proposal and Tariff: https://www.nyiso.com/documents/20142/24925244/20210928_NYISO-CMR Final.pdf/769828a1-f224-0140-240b-0762ec18efec Market Impacts of Comprehensive Mitigation Review (Analysis Group): https://www.nyiso.com/documents/20142/24925244/2021.09.28_Stakeholder Presentation Draft_2021.09.27.pdf/39150426-8b99-695a-7f1d-4c839b4993f6

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Background

Background

- **The current Buyer Side Mitigation (BSM) rules when applied to state supported resources are increasingly viewed by both state and federal regulators as costly to consumers, resulting in inefficient outcomes that are ultimately counterproductive**
- **The NYISO believes that any modification of BSM rules must support just and reasonable Installed Capacity (ICAP) Market rates, continue to allow the ICAP Market to attract and retain resources to maintain resource adequacy, be supported by stakeholders and the FERC, and be legally durable**
  - Therefore, the role of accurately valuing installed capacity resources' contribution to resource adequacy is extremely important when considering BSM reforms
    - The NYISO has adjusted the schedule for Improving Capacity Accreditation accordingly
- **The premise of the new approach aims to:**
  - Eliminate BSM risk for CLCPA resources
  - Simplify currently complex and administratively burdensome BSM process

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Background

- **The NYISO's Comprehensive Mitigation Review proposal includes the following:**
  - BSM Reforms
    - New resources that are required to satisfy the goals specified in the CLCPA will not be subject to review by the NYISO under the BSM rules or otherwise subject to an offer floor as discussed at the September 9 ICAPWG
  - Capacity Accreditation
    - The NYISO is currently working with stakeholders to establish a framework proposal to reexamine the capacity accreditation of all resource types in the NYISO's ICAP Market
    - For details on the current proposal, please see the materials posted to the September 28 ICAPWG
  - ICAP/UCAP Reference Price Translation
    - The NYISO is proposing to adopt Potomac Economics' recommendation to translate the ICAP Reference Price to a UCAP Reference Price using the derating factor of the peaking unit underlying the relevant ICAP Demand Curve
    - For details on this part of the proposal, please see the materials posted to the August 31 ICAPWG
  - Address capacity market investment risk
    - Potomac Economics discussed this item at the September 20 ICAPWG
  - Analysis Group's supporting analysis examining the impact of a large influx of state-supported resources into the NYISO's ICAP Market
- **The NYISO believes that all aspects of this proposal and supporting analysis is necessary to ensure that ICAP Market remains competitive and effective, and continues to provide just and reasonable outcomes**

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Capacity Accreditation Proposal

Capacity Accreditation Proposal

- **The resource mix is evolving and the NYISO's markets need to continue to accurately value resources for the attributes they provide in meeting system reliability**
- **By properly valuing each resource's contribution to reliability, NYISO's Capacity Accreditation Proposal will ensure an efficient and well functioning ICAP Market that supports reliability and public policy goals**
  - As shown in the next slide[1], a marginal accreditation approach can facilitate the entry of public policy resources at a lower consumer cost than an average accreditation approach
  - Marginal accreditation will be critical in informing efficient public and private investment decisions in a grid in transition

[1] Example from Potomac Economics' August 30th ICAPWG presentation

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Marginal Accreditation Supports Policy Goals Example – Potomac Economics

- Solicitation for RECs with to bidders offering same REC quantity
- Under marginal accreditation the more efficient resource is selected
  - This results in lower total consumer cost (energy + capacity + REC)

All in $/MWh terms		Resource X	Resource Y
Levelized Cost	(a)	50	60
Energy Revenue	(b)	25	25
Capacity + REC Revenue Needed	(c) = (a) - (b)	25	35
Capacity Revenue (Marginal Approach)	(d)	2	5
Capacity Revenue (Average Approach)	(e)	3	15
REC Offer (Marginal Approach)	(f) = (c) - (d)	23	30
REC Offer (Average Approach)	(g) = (c) - (e)	22	20

Method	Winner	REC	Capacity Payment	Incremental Capacity Value	Energy Revenue	Resource Cost	Total Payment less Energy and Capacity Value
Marginal Approach	Resource X	23	2	2	25	50	23
Average Approach	Resource Y	20	15	5	25	60	30

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Capacity Accreditation Proposal

- **There are six elements of the Capacity Accreditation framework that are important for the Comprehensive Mitigation Review proposal. Including these elements in the Comprehensive Mitigation Review proposal is necessary for the NYISO to demonstrate that excluding CLCPA resources from BSM will continue to result in just and reasonable ICAP Market outcomes**
  - The NYISO proposes to use the IRM and LCR study models, as vetted and approved by the NYSRC for the applicable Capability Year, as a starting database for this study
  - The NYISO proposes to run this study at-criterion consistent with the setting of IRM and LCRs
  - The NYISO proposes to perform this study annually to keep pace with the resource changes that the CLCPA requires
  - The NYISO proposes to evaluate the capacity accreditation of all resource types
  - The NYISO proposes to perform this study for resource types at the capacity Locality level
  - The NYISO proposes to determine the capacity accreditation of resource types consistent with the marginal reliability contribution of each resource type and Locality

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Capacity Accreditation Proposal

- **The NYISO is proposing to use the IRM and LCR studies as a base for this annual study performed at-criterion**
  - The IRM database and recommendations are vetted and established through an open and transparent New York State Reliability Council (NYSRC) process
    - In particular, the NYSRC reliability rules can be found in Policy No. 5-15[1]
    - The NYSRC Installed Capacity Subcommittee[2] (ICS) oversees this process which generally begins in June the year before the Capability Year the for which IRM being studied becomes effective
      - For example, to establish the IRM for Capability Year 2021/2022, the ICS process began in June 2020
  - This would align the capacity accreditation study very closely with the current resource adequacy structures in use by the ICAP Market
  - Aligning these two processes would ensure that resources continue to receive ICAP payments based on both:
    - How they contribute to reliability as modeled in the IRM and LCR setting process, and
    - Their individual performance or availability

[1] NYRSC Policy 5-15 can be found at: https://www.nysrc.org/PDF/Policies/Policy 5-15.pdf

[2] ICS meeting materials, including the assumptions used for that IRM study, can be found at: https://www.nysrc.org/IC Subcommittee/current ics schedule.html

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Capacity Accreditation Proposal

- **The NYISO is proposing to perform this study at the Locality level**
  - Performing this study at the Locality level acknowledges that some resources with similar characteristics located in transmission constrained regions or the NYCA have different contributions to reliability
    - Similarly, the diversity benefits from the resource mix can be muted by limitations in transmission
  - This will also help to send efficient price signals on where resource characteristics are needed
- **The NYISO is proposing to evaluate all resources as part of this new capacity accreditation methodology**
  - All resources will be evaluated to determine their capacity accreditation factors
  - Phase 2 will focus on the procedures to performing this evaluation

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Capacity Accreditation Proposal

- **The NYISO is proposing to use the marginal values produced from this review for each resource type when measuring the capacity accreditation of ICAP Suppliers**
  - The NYISO also believes using marginal capacity accreditation values best aligns with the NYISO's wholesale market structures
  - The NYISO believes that using marginal capacity accreditation values will result in more efficient signals for attracting and retaining resources in New York, regardless of whether those resources receive out of market payments or rely more heavily on capacity market revenues, by properly signaling which resource types are best suited to support grid reliability
    - This also has the benefit of reduced capacity market and overall costs for consumers
  - The use of average capacity accreditation values could result in consumers incurring increased capacity market payments for the same installed capacity needed to meet resource adequacy requirements as compared to the use of marginal capacity accreditation values
    - Additionally, average capacity accreditation values could result in a shift in revenues from one set of resources to other resources, based on the methodology used to allocate "diversity benefits" across resource types
    - The NYISO believes that there is no efficient way to allocate "diversity benefits" that is not ultimately picking winners and losers

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ICAP/UCAP Reference Price Translation Proposal

ICAP/UCAP Reference Price Translation

- **As part of this market design, the NYISO is proposing to adopt the MMU's recommendation to translate the ICAP Reference Price to a UCAP Reference Price using the derating factor of the peaking unit underlying each ICAP Demand Curve**
  - Currently, the ICAP Reference Price is converted to the UCAP Reference Price using the system-wide derating factor
    - Typically, the system-wide derating factor is higher than the derating factor for the peaking unit, which is a new plant
  - As more resources with high derating factors are added to the system, this would cause the UCAP Reference Price to increase significantly
    - This would cause the peaking unit at the prescribed level of excess to be paid more than the annual revenue requirement of the unit

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Example

- The ICAP/UCAP Translation of the Reference Price under today's methodology is performed using the system derating factor (8.40% in this example)
- Under the proposed methodology, the ICAP/UCAP Translation of the Reference Price would be performed using the specific derating factor of the peaking plant underlying the Reference Price (in this example, 3.5%)

	Today's Methodology	Proposed Methodology
	NYCA	NYCA
ICAP Reference Price ($/kW-mo)	$7.81	$7.81
ICAP Maximum Clearing Price ($/kW-mo)	$14.01	$14.01
ICAP/UCAP Translation Factor	8.40%	3.50%
UCAP Reference Price ($/kW-mo)	$8.53	$8.09
UCAP Maximum Clearing Price ($/kW-mo)	$15.29	$14.52

Additional Capacity Accreditation Tariff Revisions

Capacity Accreditation Tariff Revisions

- Based on stakeholder feedback received at the previous working group meeting, the NYISO has made additional revisions to MST 2.3 and MST 5.12
- The Appendix section of this slide deck contains the detailed changes to MST 5.12 as previously presented on September 28, 2021

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Capacity Accreditation Tariff Revisions

- **Section 2.3: Definitions**
  - Revisions have been made to incorporate the terms “Capacity Accreditation Factor” and “Capacity Accreditation Resource Class”
- **Section 5.12.14: Energy Duration Limitations and Duration Adjustment Factors for Installed Capacity Suppliers and Rules for Capacity Accreditation Studies for Installed Capacity Suppliers**
  - Revisions have been made to the title of this section
- **Section 5.12.14.2: Adjusted Installed Capacity**
  - Revisions have been made to specify the process for a Resource that wishes to join an Aggregation or elect a different EDL
- **Section 5.12.14.3: Periodic Review of Capacity**
  - Language has been added to clarify the approval process of the IRM/LCR study models
  - Clarifying language has been added to reflect the annual study will produce factors consistent with the respective review period
  - Language has been added to link the Capacity Accreditation factors established to the respective Capability Year

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Additional BSM Tariff Revisions

Additional BSM Tariff Revisions

- **Section 23.2.1: Definitions**
  - Clarifying language has been incorporated to the definition of "Excluded Facility" to specify the inclusion of UDRs

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Additional Feedback

Additional Feedback

- **New York State Reliability Council Installed Capacity Subcommittee Status Updates**
  - The NYISO will provide a status update of the IRM data base creation periodically at NYISO Installed Capacity Working Group Committee meetings, as per stakeholders' request

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Schedule

Schedule Overview

- **The NYISO is pursuing BSM Reforms in time for the Class Year 2021 BSM evaluations**
- **The NYISO intends to address capacity accreditation in different phases**
  - Phase 1 will discuss tariff changes for the new framework through Q4 2021
  - Phase 2 will discuss the procedures and details of capacity accreditation and is expected to start after the completion of Phase 1 and continue throughout 2022 as part of the Improving Capacity Accreditation Project
  - Phase 3 will focus on the implementation of the capacity accreditation review as part of the Capacity Value Study project
  - The NYISO intends to implement the updated capacity accreditation rules for the Capability Year that begins by the Effective Date
- **The NYISO intends to implement the ICAP/UCAP Reference Price Translation changes with the capacity accreditation rule changes for the Capability Year that begins by the Effective Date**
- **Assessment of financial risk of changes in future revenues will be incorporated into the next Demand Curve Reset process beginning in 2023**

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Next Steps

Next Steps

- **October 22nd ICAPWG**
  - Analysis Group will review their analysis examining the impact of the Comprehensive Mitigation Review proposal on the NYISO's ICAP Market
- **October 29th ICAPWG**
  - NYISO will address any feedback, including updates to tariff language if necessary
- **November 2nd ICAPWG**
  - Potomac Economics and the NYISO will present the consumer impact analysis of the Capacity Accreditation Proposal
- **November 9th BIC**
- **November 17th MC**

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Questions?

Appendix

BSM Tariff Revisions

BSM Tariff Revisions

- **As a part of the BSM Reforms, the NYISO has identified sections in Attachment H that will need to be revised as a part of this proposal**
  - Substantial edits were made to define new terms and incorporate edits to include the resource types that are exempt from the BSM rules or otherwise subject to an offer floor, as well as delete previous Tariff language related to Renewable Exemptions

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23.2.1 Definitions

- "Excluded Facility" is a new defined term that reflects the Resource types that are not subject to review by the NYISO under the BSM rules or otherwise subject to an offer floor
- Language for the definition of "Examined Facility" has been modified to delete language related to Co-located Storage Resources and add to include any Generator or UDR that meets the definition of "Excluded Facility"
- The following terms have been deleted from Section 23.2.1
  - Exempt Renewable Technology
  - Incremental Regulatory Retirement
  - Minimum Renewable Exemption Limit
  - Qualified Renewable Exemption Applicant
  - Renewable Exemption Applicant
  - Renewable Exemption Bank
  - Renewable Exemption Limit

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Attachment H

- 23.4.5.7
  - Revisions have been made to include language with respect to an Excluded Facility and delete language related to Special Case Resources that will not be subject to the Offer Floor
- 23.4.5.7.2
  - Language has been deleted that pertains to Examined Facilities seeking to participate as a Co-located Storage Resource as well as language pertaining to the Renewable Exemption
- 23.4.5.7.3.3
  - Replaced ‘Project’ with ‘Examined Facility’ to avoid confusion
- 23.4.5.7.3.4
  - Language has been deleted that pertains to Examined Facilities seeking to participate as a Co-located Storage Resource

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Attachment H

- **23.4.5.7.5**
  - This section addressing SCR mitigation has been deleted
- **23.4.5.7.6**
  - Revisions have been made to delete language pertaining to the Renewable Exemption and Examined Facilities that are Limited Control RoR Hydro
- **23.4.5.7.7**
  - Revisions have been made to include language with respect to an Excluded Facility and delete language related to Special Case Resources that will not be subject to the Offer Floor
- **23.4.5.7.3.8**
  - Added language clarifying that the section is applicable only to a Generator or UDR project that is an Examined Facility
- **23.4.5.7.9.3.2**
  - Revisions delete reference to Renewable Exemption with respect to the concept of requests for Competitive Entry Exemptions

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Attachment H

- **23.4.5.7.10**
  - Replaced ‘Project’ with ‘Examined Facility’ for clarity
- **23.4.5.7.13**
  - This section addressing the Renewable Exemption has been deleted
- **23.4.5.7.14.1**
  - Added to clarifying language “that is an Examined Facility”
  - Removed language that pertains to Co-located Storage Resources requesting a Self-Supply Exemption
- **23.4.5.7.15**
  - Replaced term “Excluded Units” with “Omitted Units” to avoid confusion

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Updates to BSM Tariff

- **Section 23.2.1: Definitions**
  - In response to feedback received at the previous ICAPWG on September 17, 2021, language has been added to section 23.2.1 to clarify that the CLCPA may be amended from time to time

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Capacity Accreditation Tariff Revisions

Capacity Accreditation

- **The NYISO has identified sections of MST 5.12 that will need to be revised as part of this proposal**
  - MST 5.12.14 currently contains language for the recurring 4-year study, and will be updated with the proposed new framework to address the capacity accreditation changes

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Tariff Revisions

- **Section 5.12.6.2: UCAP Calculations**
  - Revisions have been made to clarify that the current construct for calculating UCAP for Intermittent Power Resources and Limited Control RoR Hydro will be utilized until the Capability Year 2024

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Tariff Revisions

- **Section 5.12.14: Energy Duration Limitations and Duration Adjustment Factors for Installed Capacity Suppliers, and Rules for Resources Subject to Capacity Accreditation Studies**
  - Section 5.12.14 and its subsections were revised to add in new language outlining the initial proposal for Capacity Accreditation
    - Revisions have been made to clarify that beginning Capability Year 2024, the Adjusted ICAP for ICAP Suppliers will use the applicable Capacity Accreditation Factor, developed in the annual Capacity Accreditation Study
  - Section 5.12.14.2: Adjusted Installed Capacity
    - Additional language has been added in related to the timeline and process of calculating a Resource's Adjusted ICAP using the Capacity Accreditation Factors
  - Section 5.12.14.3: Periodic Review of Capacity Accreditation Factors
    - All previous language of the 4-year recurring study of capacity values has been replaced with new language related to elements of the annual re-evaluation of the Capacity Accreditation Factors for ICAP Suppliers
    - Additional language has been added to reflect the periodic review of the Peak Load Window associated with the bidding requirements for Resources with Energy Duration Limitations

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Other Tariff Revisions

Tariff Revisions

- **Section 5.14.1.2: Demand Curve and Adjustments**
  - Revision made to describe the NYISO's proposed methodology for utilizing the derating factor of the peaking plant used to establish each ICAP Demand Curve when translating the ICAP Reference Point to a UCAP Reference Point
- **Section 5.14.1.2.2 : Periodic Reviews of ICAP Demand Curves Applicable Beginning with the 2017/2018 Capability Year**
  - Revisions have been made to explicitly include an assessment of risk of changes in future revenues in developing the peaking plant gross costs

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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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