New York ISO
Independent System Operator

Notice of Potential Market Problem:
Discussion on 2017-2021 Demand Curve Reset Net Energy Ancillary Service (Net EAS) Model Gas Pricing Logic

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WebEx

Agenda

- Background
- Update on Assessments
- Course of Action
- Upcoming Capacity Market Auction
- Next Steps

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Background

- Every four years, the NYISO and its stakeholders undertake a comprehensive review to determine the necessary inputs and assumptions for developing the ICAP Demand Curves for the four-year period covered by the reset. This process is commonly referred to as the ICAP Demand Curve reset (DCR)
- The ICAP Demand Curves are developed based on the estimated cost to construct and operate a hypothetical new capacity supply resource in various locations throughout New York. This cost is then offset by an estimate of the potential revenues the hypothetical resource could earn from participating in the NYISO-administered energy and ancillary services markets. The resulting net value determines the revenue the hypothetical resource would need to receive from the capacity market to obtain sufficient revenues to support market entry under the system conditions specified for use in the DCR
- The estimated energy market revenue earnings are determined using a historic commitment and dispatch model that is developed as part of the DCR and incorporated as part of the NYISO's filing to FERC seeking acceptance of the result of the DCR. The model utilizes the most recent three years of historic market and cost data to estimate the potential revenues earnings for a hypothetical new resource. This model is commonly referred to as the Net EAS Model

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Background

- As part of the ongoing 2021-2025 DCR, certain stakeholders raised concerns about the gas pricing alignment logic contained in the Net EAS Model for the 2021-2025 period
  - Specifically, the model included logic that shifts forward by one day the gas price published for a specific date by S&P. This logic was based on an understanding that the gas prices published by S&P represented the "trade day" price (or the day before the generator would take delivery of and use the gas to produce electricity)
  - The NYISO has since confirmed that the data published by S&P represents the "flow day" price (or the day the generator would take delivery of and use the gas to produce electricity)
  - As part of the NYISO Staff Final Recommendations issued September 9, 2020, the NYISO has proposed to remove this pricing alignment logic from the Net EAS Model for the 2021-2025 period
- The logic of the 2017-2021 DCR Net EAS Model includes this same gas price alignment logic and produces the same pricing misalignment that the NYISO has proposed to eliminate from the Net EAS Model for the 2021-2025 DCR
- The NYISO identified a potential Market Problem associated with this discrete aspect of the Net EAS Model for the 2017-2021 DCR. The 2017-2021 DCR includes the ICAP Demand Curves for the 2017/2018 through 2020/2021 Capability Years (May 1, 2017 through April 30, 2020)

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Updates on Assessments

Reference Point Price Re-Calculation: Overview

- **The NYISO has completed the process of developing and validating revised reference point prices**
  - The process involved recalculating 2017/2018 Capability Year reference points, and then applying 3 years of annual updates while accounting for the collaring mechanism applicable for the 2017-2021 reset period.
  - Analysis Group updated the original 2017-2021 DCR Net EAS Model to remove the original gas pricing alignment logic.
  - The NYISO has completed its review of the updated model and revised results
    - The revised model has correctly removed the prior gas pricing date alignment logic.
    - The results show both increases and decreases over the four year horizon.
    - These results highlight that the misalignment of gas prices do not have a unidirectional impact on reference point prices.
    - Changes in reference point prices presented herein do not reflect potential changes to the clearing prices which would need to account for available supply offers, applicable requirements and the nesting of capacity zones.
      - A potential market impact assessment is provided separately as part of today's presentation (see Slides 10-13)

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Reference Point Price Re-Calculation: Observations

- Net Energy and Ancillary Services revenues generally accrue in a few, highly profitable situations
- Initial scenario that raised concerns for the 2021-2025 DCR was related to incoming cold weather over the Martin Luther King, Jr. holiday weekend.
  - Original model applied Friday's lower gas prices throughout the holiday weekend, resulting in large revenues
  - Revised model applied higher Tuesday gas prices throughout the weekend, significantly reducing or eliminating the revenues
- Identified contrasting scenario in the 2017-2021 DCR historic dataset where cold weather broke at the end of the week (prior to or over the weekend)
  - Original model applied Friday's high gas price throughout the weekend resulting in minimal revenues
  - Revised model utilized Monday's lower gas price and observed revenues accruing over multiple days
- Scenarios identified in the 2017-2021 DCR historic dataset with significant revenues from real-time operation
  - Revised model did not provide resource with a Day-Ahead schedule
  - Resource was available for real time operation, which included operational events that led to shortage pricing conditions
- Each scenario does not necessarily occur in all years. Random nature of events drive some years to show increased revenues, while other years show reduced revenues.

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Net EAS Re-Calculation Results

Net EAS ($/kW-yr)		Original	Rerun	Delta
F - Capital	2017-2018	$34.84	$36.01	$1.17
G - Hudson Valley (Dutchess)	2017-2018	$39.42	$40.31	$0.89
J - New York City	2017-2018	$53.94	$57.01	$3.07
K - Long Island	2017-2018	$101.69	$101.40	($0.29)
F - Capital	2018-2019	$28.13	$29.90	$1.77
G - Hudson Valley (Dutchess)	2018-2019	$28.56	$28.88	$0.32
J - New York City	2018-2019	$34.79	$37.03	$2.24
K - Long Island	2018-2019	$71.30	$73.15	$1.85
F - Capital	2019-2020	$31.48	$30.45	($1.03)
G - Hudson Valley (Dutchess)	2019-2020	$31.81	$30.46	($1.35)
J - New York City	2019-2020	$35.32	$34.53	($0.79)
K - Long Island	2019-2020	$65.20	$65.23	$0.03
F - Capital	2020-2021	$29.27	$26.30	($2.97)
G - Hudson Valley (Dutchess)	2020-2021	$28.71	$25.81	($2.90)
J - New York City	2020-2021	$30.39	$27.87	($2.52)
K - Long Island	2020-2021	$56.23	$54.19	($2.04)

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Reference Point Re-Calculation Results

Reference Point Prices ($/kW-mo)		Original	Rerun	Delta
F - Capital	2017-2018	$9.08	$8.96	($0.12)
G - Hudson Valley (Dutchess)	2017-2018	$14.84	$14.74	($0.10)
J - New York City	2017-2018	$18.61	$18.23	($0.38)
K - Long Island	2017-2018	$12.72	$12.76	$0.04
F - Capital	2018-2019	$10.04	$9.86	($0.18)
G - Hudson Valley (Dutchess)	2018-2019	$16.42	$16.38	($0.04)
J - New York City (collared)	2018-2019	$20.84	$20.42	($0.42)
K - Long Island (collared)	2018-2019	$14.25	$14.29	$0.04
F - Capital	2019-2020	$9.83	$9.94	$0.11
G - Hudson Valley (Dutchess)	2019-2020	$16.59	$16.75	$0.16
J - New York City	2019-2020	$21.95	$22.05	$0.10
K - Long Island (collared)	2019-2020	$15.96	$16.01	$0.05
F - Capital	2020-2021	$10.65	$10.96	$0.31
G - Hudson Valley (Dutchess)	2020-2021	$17.67	$18.00	$0.34
J - New York City	2020-2021	$23.31	$23.63	$0.32
K - Long Island (collared)	2020-2021	$17.88	$17.93	$0.06

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Market Impact Assessment

- **Evaluated the market impact between the original and revised reference point prices on market clearing outcomes**
  - For previously conducted auctions, assumed the markets cleared the same number of MW
  - Assessed the "Total" market impact, assuming all resources would be exposed to the change in price
    - This assumption represents an upper bound on the potential impact as any resources with bilateral contracts or other hedging arrangements may not be exposed to these market outcomes
  - Assessed the "Spot" market impact assuming only resources participating and settled through the spot market would be exposed to the change in price
    - This assumption may represent a lower bound on the potential impact depending on how resources have hedged their resources.
  - Maintained the same Locational Minimum Installed Capacity Requirements (LCRs)
  - Evaluated the impact for the previously cleared 3 ½ years of capacity market outcomes

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Market Impact Assessment

- **NYISO and the MMU have collaborated to develop a forecast of anticipated impacts for the remainder of the current year (i.e., 2020/2021 Winter Capability Period)**
  - Based upon the strip auction results, similar historical periods and current resource participation levels, we expect the remaining impact to be concentrated in the NYC Locality
  - Clearing prices in NYC would be expected to be 1-2% higher with the revised reference point prices
- **Relative to the total market size, the gas pricing alignment issue had a relatively minimal net effect on locational market clearing prices**
  - Higher revenues in the 2017/2018 and 2018/2019 Capability Years were offset by reduced revenues in the 2019/2020 and 2020/2021 Capability Years
  - Impacts to net capacity market revenues range from 0 – 0.3% lower, over the four year reset period.

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Market Impact Assessment - Historic

42 Month Total		
ROS	Total	Spot
As-cleared	$1,117,737,033	$552,681,433
Revised	$1,117,683,499	$552,693,109
Revenue delta	$53,534	-$11,675
Percent delta	0.005%	-0.001%
GHI	Total	Spot
As-cleared	$998,878,136	$695,429,872
Revised	$999,834,923	$696,264,257
Revenue delta	-$956,787	-$834,386
Percent delta	-0.096%	-0.084%

42 Month Total		
NYC	Total	Spot
As-cleared	$3,652,410,968	$1,658,658,016
Revised	$3,657,926,147	$1,661,441,018
Revenue delta	-$5,515,179	-$2,783,002
Percent delta	-0.151%	-0.076%
LI	Total	Spot
As-cleared	$909,768,018	$93,649,576
Revised	$912,628,597	$93,931,290
Revenue delta	-$2,860,579	-$281,714
Percent delta	-0.314%	-0.031%

42 Month Total		
NYCA-Wide	Total	Spot
As-cleared	$6,678,794,155	$3,000,418,897
Revised	$6,688,073,166	$3,004,329,674
Revenue delta	-$9,279,011	-$3,910,777
Percent delta	-0.139%	-0.059%

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Market Impact Assessment - Forecast

Winter 2020-2021		
NYC	Total	Spot
As-cleared	[redacted]	
Revised	[redacted]	
Revenue delta	-$8,403,174	-$4,052,334
Percent delta	[redacted]	

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Market Problem Determination

- **The NYISO has determined that the gas price alignment issue in the 2017-2021 DCR Net EAS model represents a Market Problem**
  - The NYISO does not consider this issue to have had a material impact on the economic efficiency of the markets
  - Determination acknowledges the duration and cumulative impact of the issue and the root cause (i.e., a modeling error based on an incorrect understanding of the gas price data used)

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Course of Action

- **The NYISO does not support or endorse retroactive resettlement of previously cleared auctions.**
  - In previous discussions on this topic, stakeholders and the MMU have expressed support for this position.
- **The NYISO has proposed to remove this pricing alignment logic from the Net EAS Model for the 2021-2025 DCR period**
- **The NYISO proposes to implement revised ICAP Demand Curves for all months covered by the 2020/2021 Winter Capability Period**
  - Recognizes that the net impact over the course of the reset period has predominately impacted NYC resources
  - Modifying the reference point prices for the remaining six months would remediate over half of the potential shortfall for NYC resources that would otherwise accrue absent remedial action
  - Stakeholder feedback has encouraged taking remedial action as soon as possible
  - Addresses the discrete issue of the gas price alignment logic
  - The NYISO proposes to maintain the current LCRs

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Regulatory Approval Pathway

- **NYISO plans to submit an exigent circumstances filing under Section 205 to implement revised ICAP Demand Curves for the 2020/2021 Winter Capability Period**
  - Authorized under Section 19.01 of the ISO Agreement without prior approval of the Management Committee
  - Limits the duration of proposed tariff revisions to 120 days after filing absent: (1) concurrence from the Management Committee for the revisions to become permanent; or (2) FERC determination under Section 206 to make the revisions permanent
  - The Board of Directors has provided the required certification of exigent circumstances and authorized NYISO staff to submit the filing
- **Currently targeting to file on or before October 16, 2020**
  - 120 day period would expire prior to the March 2021 ICAP Spot Market Auction
- **NYISO plans to request that the proposed tariff revisions become effective on October 21, 2020 (i.e., before the certification deadline for the November 2020 ICAP Spot Market Auction) unless FERC directs otherwise prior to such date**
- **Anticipate requesting expedited action, as well as a shortened notice and comment period**
- **Currently anticipate seeking Management Committee concurrence with the proposed tariff revisions at the regularly scheduled meeting on October 28, 2020**

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Upcoming Capacity Market Auctions

- **November 2020 Monthly Market Auction**
  - Six monthly, two-sided voluntary auctions
  - Bid/Offer window closes October 12
  - Auction results post October 14
- **November 2020 Spot Auction**
  - Mandatory auction utilizing ICAP Demand Curves
  - Offer window closes October 27
  - Auction results post October 29
- **NYISO will proceed with the auctions as scheduled; remedial action plan proposes to implement revised ICAP Demand Curves for the November 2020 ICAP Spot Market Auction**

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Stakeholder Communication

- **September 18, 2020**
  - NYISO issued Potential Market Problem Notice
- **September 22, 2020**
  - Initial discussion to review Potential Market Problem at ICAPWG
- **September 25, 2020**
  - Discussion of tariff compliance and NYISO's conclusion that the issue at hand does not constitute a tariff violation
  - Update on quality review and preliminary reference point price re-calculations
- **September 30, 2020**
  - Update on quality review and reference point price re-calculations
- **October 7, 2020**
  - Update on market impact assessment, market problem assessment, and remedial action plan.

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Stakeholder Feedback

- **Written feedback received has been posted with today's meeting material.**
  - Feedback supports seeking to implement revised ICAP Demand Curves as soon as possible

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Next Steps

- Section 205 exigent circumstances filing
- Seek Management Committee concurrence with the tariff revisions submitted as part of the exigent circumstances filing
- Continue executing the capacity market auctions per the posted schedules

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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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Appendix

ICAP Market Annual Parameters Timeline

- Every four years, perform the DCR to calculate reference prices and establish ICAP Demand Curves for NYCA and each Locality for the first year of the four-year reset period and establish set of rules and practices for performing the annual updates to determine the reference prices and ICAP Demand Curves for years 2 through 4 of the reset period
- Each November, complete annual update and establish reference prices and ICAP Demand Curves for NYCA and each Locality for upcoming Capacity Year (May – April)
  - The various steps to conduct the annual update are undertaken over the course of September-November
- Each December, the NYSRC approves the Installed Reserve Margin (IRM) and NYISO establishes the Peak Load Forecast for upcoming Capacity Year (May – April)
- Each January, the Operating Committee approves the Locational Minimum Installed Capacity Requirements (LCRs) for each Locality for upcoming Capacity Year (May – April)

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