



2017-2021 ICAP Demand Curve Reset: Net EAS Model Gas Pricing Logic Alignment Issue Resolution

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WebEx

Agenda

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- **Remedial Action Plan**
- **Regulatory Approval**
- **Next Steps**

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

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 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, 2021)**
 - The NYISO reviewed its proposed remedial action plan for this issue at the October 7, 2020 ICAPWG meeting, including its proposal to seek approval to implement revised ICAP Demand Curves for the upcoming 2020/2021 Winter Capability Period
 - The NYISO issued draft tariff revisions to address the implementation of revised ICAP Demand Curves for the 2020/2021 Winter Capability Period for stakeholder review on October 13, 2020

Remedial Action Plan

- The NYISO developed and validated a revised Net EAS model removing the gas pricing date alignment logic and calculated revised reference points for the four years of the current 2017-2021 Demand Curve Reset Period
- The NYISO evaluated the market impacts between the original and revised reference point prices on market clearing prices
- These results were discussed at the September 25, 30 and October 7 ICAPWG meetings.
 - For additional information please refer to the Appendix, which includes slides previously presented at the October 7, 2020 ICAPWG meeting
- **At the October 7, 2020 ICAPWG meeting, the NYISO described its proposal to implement revised ICAP Demand Curves for the 2020/2021 Winter Capability Period and to maintain the current Locational Minimum Installed Capacity Requirements (LCRs) for the 2020/2021 Capability Year**
 - Recognizes that the net impact over the course of the reset period has predominately impacted NYC resources
 - Modifying the ICAP Demand Curves 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 encouraged taking remedial action as soon as possible
 - Addresses the discrete issue of the gas price alignment logic

Regulatory Approval

- **NYISO submitted an exigent circumstances filing under Section 205 on October 16, 2020 (FERC Docket No. ER21-130-000)**
 - 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
 - 120 day period would expire prior to the March and April 2021 ICAP Spot Market Auction
- **NYISO requested the proposed tariff revisions become effective on October 21, 2020 (i.e., before the certification deadline for the November 2020 ICAP Spot Market Auction)**

Next Steps

- **The NYISO is seeking the Management Committee's concurrence with the filed tariff revisions**
 - Tariff revisions are included in today's meeting materials
 - MST Section 5.14.1.2.2.5: Proposed new section to establish the ICAP Demand Curves applicable for the 2020/2021 Winter Capability Period
 - MST Sections 5.14.1.2 and 5.14.1.2.2: Proposed clarifying revisions to address the establishment of ICAP Demand Curves applicable to only the 2020/2021 Winter Capability Period
 - MST Section 5.11.4: Proposed revisions to clarify that the previously approved 2020/2021 Capability Year LCRs will remain in effect without any modifications
- **If approved by stakeholders, the NYISO will submit an informational filing to FERC to provide notice of the Management Committee's concurrence with the previously filed tariff revisions**

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



Appendix

(Slides previously presented at the October 7, 2020 ICAPWG Meeting)

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)

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.**

Net EAS Re-Calculation Results

<i>Net EAS (\$/kW-yr)</i>		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)

Reference Point Re-Calculation Results

<i>Reference Point Prices (\$/kW-mo)</i>		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

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

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.

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%

Market Impact Assessment - Forecast

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

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)**