175 FERC ¶ 61,012 UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman; Neil Chatterjee, James P. Danly, Allison Clements, and Mark C. Christie.

New York Independent System Operator, Inc.

Docket No. ER21-502-001

ORDER ACCEPTING, IN PART, SUBJECT TO CONDITION AND DIRECTING COMPLIANCE FILING

(Issued April 9, 2021)

1. On November 30, 2020, as amended on February 12, 2021, the New York Independent System Operator, Inc. (NYISO) filed revisions to section 5.14.1.2 of its Market Administration and Control Area Services Tariff (Services Tariff)¹ pursuant to section 205 of the Federal Power Act (FPA).² The proposed revisions define the demand curves in the Installed Capacity (ICAP) Market for the 2021/2022 Capability Year.³ The proposed revisions also identify the methodologies and inputs to be used for subsequent, annual updates to the ICAP Demand Curves⁴ for the 2022/2023, 2023/2024, and 2024/2025 Capability Years (2021-2025 DCR). This periodic review process is known as the ICAP Demand Curve reset.

2. In this order, we accept, in part, subject to condition, NYISO's proposed revisions to its Services Tariff, and direct NYISO to file a compliance filing within 14 days of the

² 16 U.S.C. § 824(d).

³ NYISO's Capability Year consists of the Summer Capability Period (May 1 through October 31) and the Winter Capability Period (November 1 through April 30).

⁴ ICAP Demand Curve is defined as: "A series of prices which decline until reaching zero as the amount of Installed Capacity increases." NYISO, Services Tariff, $\S 2.9 (29.0.0)$.

¹ New York Independent System Operator, Inc., NYISO Tariffs, <u>NYISO MST</u>, <u>5.14 MST Installed Capacity Spot Market Auction and Installed Capacity Supplier</u> <u>Deficiencies (32.0.0)</u>.

date of this order reflecting an amortization period of 20 years for the 2021-2025 DCR, effective April 9, 2021, as discussed below.

I. <u>Background</u>

3. NYISO is required to determine the amount of ICAP, in megawatts (MW), that each Load Serving Entity (LSE) must acquire to ensure that adequate resources are available to meet projected load, taking into account reliability contingencies.⁵ NYISO oversees an auction process that determines the amount and price of ICAP that each LSE must acquire using administratively established, downward-sloping ICAP Demand Curves. Each year, the New York State Reliability Council, L.L.C. determines the total amount of ICAP required for the entire NYISO control area (i.e., the New York Control Area (NYCA))⁶ and NYISO separately determines the amount of ICAP required for New York City (NYC), Long Island (LI), and the G-J Locality.⁷ As a result, there are separate ICAP Demand Curves for NYCA, New York City, Long Island, and the G-J Locality.

The Services Tariff guides NYISO's ICAP Demand Curve reset process. Section 4. 5.14.1.2 of the Services Tariff requires NYISO to perform a quadrennial review to identify the methodologies and inputs used for determining the ICAP Demand Curves for the four Capability Years covered by the relevant ICAP Demand Curve reset process and establish the ICAP Demand Curves for the first Capability Year covered by that process. Specifically, NYISO must assess "the current localized levelized embedded cost of a peaking plant" in New York City, Long Island, the G-J Locality, Rest of State, i.e., NYCA, and, if applicable, in any new load zone to meet minimum capacity requirements.⁸ The Services Tariff defines a peaking plant (referred to herein as a peaking facility) as "the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable," which includes "the number of units (whether one or more) that constitute the scale identified in the periodic review."⁹ Further, NYISO must assess the likely projected annual energy and ancillary services (EAS) revenues of the peaking facility for the first Capability Year covered by the periodic review, net of the costs of producing such EAS including "the methodology

⁵ See NYISO, Services Tariff, § 5.10 (3.0.0).

 6 NYCA includes the entire NYISO control area. See NYISO, Services Tariff, § 2.14 (22.0.0).

⁷ NYCA comprises New York City (load zone J), Long Island (load zone K), the G-J Locality (load zones G, H, I, and J), and Rest of State (all other load zones, which currently includes load zones A through F).

⁸ NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0).

⁹ Id.

and inputs for determining such projections for the four Capability Years covered by the periodic review."¹⁰ In addition, NYISO must assess: (1) "the appropriate shape and slope of the ICAP Demand Curves, and the associated point at which the dollar value of the ICAP Demand Curves should decline to zero" (zero-crossing point); (2) "the appropriate translation of the annual net revenue requirement of the peaking [facility] . . . into monthly values that take into account seasonal differences in the amount of capacity available in the ICAP Spot Market Auctions" (winter-to-summer ratio); and (3) "the escalation factor and inflation component of the escalation factor applied to the peaking [facility] gross cost, including the methodology and inputs for determining such values."¹¹

5. The Services Tariff details additional procedures for the ICAP Demand Curve reset process, including that the ICAP Demand Curves approved by the NYISO Board of Directors shall be filed with the Commission for incorporation into the Services Tariff. The Services Tariff also includes a table that NYISO updates at the time of each ICAP Demand Curve reset to revise the points on the ICAP Demand Curves, including the zero-crossing points and reference points, for each Capability Year covered by the most recent ICAP Demand Curve reset.¹²

II. NYISO's 2021-2025 DCR Filing and Deficiency Response

6. As required by the Services Tariff,¹³ NYISO explains that it solicited stakeholder input and selected an independent consultant for the 2021-2025 DCR (NYISO Consultant).¹⁴ NYISO states that the NYISO Consultant assisted NYISO with conducting the ICAP Demand Curve reset and with the development of the appropriate methodologies and inputs to establish the ICAP Demand Curves for the 2021-2025 reset period. According to NYISO, this process included the assessment of potential technologies to serve as the hypothetical peaking facility used in the establishment of the ICAP Demand Curves, as well as the costs to construct, own, and operate such peaking facility options.¹⁵

¹⁰ Id.

¹¹ Id.

¹² *Id.* § 5.14.1.2.

¹³ *Id.* § 5.14.1.2.2.4 (explaining the ICAP Demand Curve Reset procedures, including input from an independent consultant).

¹⁴ NYISO explains its independent consultant is Analysis Group, Inc. (Analysis Group), which subcontracted with Burns & McDonnell Engineering Company, Inc. (BMCD) (collectively, NYISO Consultant). NYISO Transmittal at 3.

¹⁵ Id.

7. NYISO states that NYISO's Market Monitoring Unit (MMU) submitted to NYISO a final report containing the NYISO Consultant's recommended ICAP Demand Curves for the 2021/2022 Capability Year and its recommendations on inputs, assumptions, and methodologies for the 2021-2025 DCR. After consideration of this report, stakeholder and MMU feedback, comments submitted throughout the ICAP Demand Curve reset process, and NYISO staff's final recommendations, the NYISO Board of Directors directed NYISO to file the 2021-2025 DCR.¹⁶

8. NYISO proposes to use the H class frame turbine as the peaking facility to establish each ICAP Demand Curve. NYISO also proposes the continued use of a gasonly peaking facility without selective catalytic reduction emissions control technology (SCR technology) for the NYCA Demand Curve. For the ICAP Demand Curves for the G-J Locality, New York City, and Long Island, NYISO proposes to continue to utilize dual fuel peaking facilities that include SCR technology. NYISO also proposes to base the NYCA ICAP Demand Curve on a peaking facility located in Zone C and to base the ICAP Demand Curve for the G-J Locality on a peaking facility located in the Rockland County portion of Zone G (Zone G (Rockland)).¹⁷

9. NYISO proposes to revise the table in the Services Tariff to: (1) include the proposed parameters of the ICAP Demand Curves for the 2021/2022 Capability Year, as well as the timing for the posting of the ICAP Demand Curves for the 2022/2023, 2023/2024, and 2024/2025 Capability Years that will be determined as part of the annual updates encompassed by the 2021-2025 DCR; and (2) remove data entries for the 2016/2017 through 2019/2020 Capability Years that are no longer relevant.¹⁸ Additionally, NYISO proposes to update the table for ICAP Demand Curve parameters with the relevant data values proposed for the 2021/2022 Capability Year ICAP Demand Curves. The remaining details regarding the applicable points of the ICAP Demand Curves for the 2021/2022 Capability Year, and the methodologies and inputs that will be used in conducting the annual updates to define the ICAP Demand Curves for the 2022/2023, 2023/2024, and 2024/2025 Capability Years are set forth in NYISO's Transmittal Letter and attachments.¹⁹ NYISO asks that the Commission accept its proposal, effective January 30, 2021.²⁰

¹⁶ *Id.* at 4-6.

¹⁷ Id. at 6.

¹⁸ *Id.* at 60; Proposed Services Tariff § 5.14.1.2.

¹⁹ Specifically, NYISO attaches to its filing: (1) its proposed revisions to its Services Tariff; (2) an affidavit from Analysis Group, Inc. (Analysis Group Aff.); (3) the NYISO Consultant's final report from September 9, 2021 (NYISO Consultant Final Report); (4) an affidavit from BMCD (BMCD Aff.); (5) an affidavit from Zachary Smith 10. On January 29, 2021, Commission staff issued a letter informing NYISO that its filing was deficient and requesting additional information necessary to process the filing (Deficiency Letter). On February 12, 2021, NYISO submitted responses to the questions contained in the Deficiency Letter (Deficiency Response). In its Deficiency Response, NYISO requests waiver of the Commission's 60-day prior notice requirement and requests that the Commission accept its amended proposal within 30 days, effective March 15, 2021.²¹ NYISO contends that waiver and expedited Commission action are justified because NYISO requires clarity regarding the ICAP Demand Curves applicable beginning May 1, 2021, in order to conduct its Capability Period Auction for the 2021 Summer Capability Period. NYISO argues that uncertainty in this regard is likely to adversely impact the efficiency of such auctions, as well as bilateral market activity in advance of the 2021 Summer Capability Period.²²

III. Notice and Responsive Pleadings

11. Notice of NYISO's filing was published in the *Federal Register*, 85 Fed. Reg. 78,320 (Dec. 4, 2020), with interventions and protests due on or before December 21, 2020. The New York State Public Service Commission (New York Commission) filed a notice of intervention. Calpine Corporation; NRG Power Marketing LLC; GenOn Bowline, LLC and GenOn Energy Management, LLC (GenOn); Independent Power Producers of New York, Inc. (IPPNY); CPV Valley, LLC (CPV Valley); the City of New York (City of NY); Multiple Intervenors;²³ the New York Transmission Owners (NYTOs);²⁴ Helix Ravenswood, LLC (Helix Ravenswood); MMU; Consumer Power Advocates; and Electric Power Supply Association (EPSA) filed timely motions to intervene.

of NYISO (Smith Aff.); (6) NYISO staff's final recommendations from September 9, 2020 (NYISO Staff Final Recommendations); and (7) an affidavit from the MMU (MMU Aff.).

²⁰ NYISO Transmittal at 1, 60.

²¹ Deficiency Response at 1.

²² Id. at 18.

²³ Multiple Intervenors is an unincorporated association of approximately 60 large industrial, commercial, and institutional energy consumers with manufacturing and other facilities located throughout New York State.

²⁴ NYTOs consist of Central Hudson Gas & Electric Corporation; Consolidated Edison Company of New York, Inc.; Niagara Mohawk Power Corporation (d/b/a National Grid); New York Power Authority; New York State Electric & Gas Corporation; Orange and Rockland Utilities, Inc.; Long Island Power Authority; and Rochester Gas and Electric Corporation. 12. MMU filed comments. CPV Valley filed a protest. The New York Commission, Multiple Intervenors, the City of NY, and Consumer Power Advocates (collectively, Consumer Stakeholders) filed comments and a protest. IPPNY filed a protest and supporting comments. GenOn filed a limited protest and comments.

13. On January 5, 2021, NYISO filed an answer to the comments and protests. On January 7, 2021, IPPNY filed an answer to MMU's, NYTOs', and Consumer Stakeholders' comments and NYISO's answer. On January 14, 2021, NYTOs filed an answer in response to NYISO's answer. On January 21, 2021, CPV filed an answer in response to NYISO's answer.

14. Notice of the Deficiency Response was published in the *Federal Register*, 86 Fed. Reg. 10,264 (Jan. 19, 2021), with interventions and protests due on or before March 5, 2021. On February 12, 2021, the Commission issued an Errata Notice shortening the comment period to 10 days and requiring interventions and protests on or before February 22, 2021.²⁵

15. On February 22, 2021, Consumer Stakeholders submitted a limited protest and IPPNY submitted comments in response to NYISO's Deficiency Response.

16. On March 30, 2021, NYISO submitted a motion for expedited clarification or, in the alternative, waiver. On April 7, 2021, NYTOs submitted an answer to NYISO's motion.

IV. <u>Discussion</u>

A. <u>Procedural Matters</u>

17. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2020), the notice of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

18. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2020), prohibits an answer to a protest or an answer unless otherwise ordered by the decisional authority. We accept the answers filed by NYISO, IPPNY, NYTOs, and CPV because they have provided information that assisted us in our decision-making process.

²⁵ Errata Notice Shortening Comment Date, Docket No. ER21-502-001, at 1 (Feb. 16, 2021).

B. <u>Substantive Matters</u>

19. We accept, in part, subject to condition, NYISO's proposed revisions to its Services Tariff, and direct NYISO to file a compliance filing reflecting an amortization period of 20 years for the 2021-2025 DCR, as discussed below. We find that, for those methodologies and inputs we accept herein, NYISO acted consistent with the requirements of the Services Tariff. We direct NYISO to submit a compliance filing reflecting an amortization period of 20 years for the 2021-2025 DCR within 14 days of the date of this order. The following discussion addresses issues pertaining to NYISO's proposed: (1) peaking facility technology and design, including dual fuel capability; (2) net EAS revenue offset; and (3) levelized fixed charge and financial parameters, including the amortization period. We find the remaining uncontested revisions to NYISO's Services Tariff to be just and reasonable.

1. <u>Peaking Facility Technology and Design</u>

20. NYISO states that it applied the following criteria to determine the appropriate peaking facility technology and equipment design for each of the ICAP Demand Curves: (1) the availability of the technology to most market participants; (2) existence of sufficient operating experience to demonstrate that the technology is proven and reliable; (3) whether the technology is dispatchable and capable of being cycled to provide peaking service; and (4) the ability to achieve compliance with applicable environmental requirements and regulations.²⁶ NYISO also states that the peaking facility design for each ICAP Demand Curve must be capable of being replicated.²⁷

21. NYISO states that it carefully evaluated these considerations as well as the views of all stakeholders in determining the peaking facility designs contained in its proposal. NYISO explains that its proposal is intended to produce ICAP Demand Curves that provide appropriate price signals regarding the value of capacity in each capacity region, while simultaneously ensuring that the ICAP Demand Curves are capable of providing the needed revenues to elicit new market entry when required to ensure that reliability is maintained.²⁸

²⁷ *Id.*; 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 19, 65.

²⁸ NYISO Transmittal at 8.

²⁶ NYISO Transmittal at 7 (citing *N.Y. Indep. Sys. Operator, Inc.*, 158 FERC ¶ 61,028, at P 60 (2017) (2017-2021 DCR Order); *N.Y. Indep. Sys. Operator, Inc.*, 146 FERC ¶ 61,043 (2014) (2014-2017 DCR Order); *N.Y. Indep. Sys. Operator, Inc.*, 134 FERC ¶ 61,058, at P 37 (2011-2014 DCR Order), *order on reh'g*, 135 FERC ¶ 61,170 (2011); *N.Y. Indep. Sys. Operator, Inc.*, 125 FERC ¶ 61,299, at P 20 (2008) (2008-2011 DCR Order)).

22. NYISO clarifies that, although it proposes to modify from the prior ICAP Demand Curve reset the class of frame turbine technology used in establishing the 2021-2025 DCR, the general facility designs for each location remain consistent with the designs approved by the Commission for the 2017-2021 DCR. As discussed further below, NYISO proposes to continue to use a dual fuel peaking facility with SCR technology for all but the NYCA ICAP Demand Curve.

2. <u>Dual Fuel Capability</u>

23. NYISO proposes to continue to include dual fuel capability for the peaking facilities used to establish the G-J Locality ICAP Demand Curve. NYISO states that it considered a number of factors in evaluating whether the appropriate peaking facility design should include dual fuel capability because dual fuel capability is not explicitly mandated for the proposed peaking facility designs used to establish the G-J Locality ICAP Demand Curve. NYISO adds that it has proposed a dual fuel peaking facility design for the G-J Locality ICAP Demand Curve since the ICAP Demand Curve's inception.²⁹ NYISO contends that the conditions supporting this design remain the same for this ICAP Demand Curve reset. For example, NYISO claims that the benefits of dual fuel capability in the downstate region, including the lower Hudson Valley, have not diminished since the last reset. In fact, NYISO contends, the importance of maintaining appropriate incentives to encourage resource flexibility to operate on a fuel source other than natural gas has grown.³⁰

24. NYISO states that certain stakeholders oppose the inclusion of dual fuel capability as part of the peaking facility design used for the G-J Locality ICAP Demand Curve. NYISO asserts that the Commission has considered these objections in the prior two ICAP Demand Curve resets and, in approving the inclusion of dual fuel capability, considered: (1) improved siting capability; (2) enhancements to reliability and operational flexibility; and (3) increased revenue earning opportunities when operation on natural gas becomes unavailable or uneconomic due to gas system constraints and competing demand for natural gas. NYISO adds that the increased siting flexibility associated with dual fuel is especially important for geographically constrained areas, such as the lower Hudson Valley. According to NYISO, this flexibility allows developers to identify a location for a new generation facility that seeks to minimize both electric and gas interconnection costs. NYISO points out that the ICAP Demand Curve reset does not assume a particular gas interconnection (i.e., a Local Distribution Company (LDC) system connection or direct connection to an interstate pipeline).

²⁹ *Id.* at 18 (citing 2014-2017 DCR Order, 146 FERC ¶ 61,043 at P 83; 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 92-93).

³⁰ *Id.* at 16-18 (citing NYISO Final Recommendation at 15-16; NYISO Consultant Final Report at 7, 34-36; Analysis Group Aff. ¶¶ 25, 32-35).

Rather, NYISO states, the natural gas interconnection cost assumptions reflect generic site assumptions and are intended to represent a cost to reasonably accommodate either gas interconnection option.³¹

25. NYISO states that New York State's natural gas pipeline system is generally more constrained in the downstate region.³² NYISO points out that, in 2019, the downstate region's constrained nature paired with increasing demand resulted in certain LDCs imposing restrictions on service to new gas customers. NYISO contends that these constraints underscore the benefits of dual fuel capability in that region. Moreover, NYISO states, a recent comprehensive, forward-looking evaluation of fuel and energy security in New York State found that dual fuel capability throughout the current resource mix was a key factor in maintaining reliability throughout the ongoing transition to a clean energy system in the state. NYISO points out that the study specifically noted the importance of dual fuel capability in the downstate region.³³

26. In further support of its proposal, NYISO cites the New York State Department of Environmental Conservation's (NYDEC) recently adopted requirements to reduce smogforming pollutants from simple-cycle combustion turbines (Peaker Rule).³⁴ NYISO explains that the new regulations will phase in compliance obligations between 2023 and 2025 and affect approximately 3,300 MW of facilities located primarily in the lower Hudson Valley, New York City, and Long Island. NYISO states that, in order to comply with the Peaker Rule, NYISO expects approximately 1,800 MW of nameplate capacity to be unavailable during the summer. NYISO adds that only 85 MW of that capacity is either dual fuel or operates on a primary fuel other than natural gas.

27. NYISO adds that New York State's ongoing transition to a resource mix that is reliant on weather-dependent resources underscores the importance of flexible and <u>controllable resources.³⁵ N</u>YISO emphasizes that the availability of resources such as the

³¹ *Id.* at 18-20 (citing 2014-2017 DCR Order, 146 FERC ¶ 61,043 at P 83; 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 92-93).

³² *Id.* at 19 (citing National Grid, *National Grid to Lift Moratorium Immediately for Customers in Brooklyn, Queens and Long Island* (2019), https://www.nationalgridus.com/News/2019/11/-National-Grid-to-Lift-Natural-Gas-Moratorium-Immediately-for-Customers-in-Brooklyn,-Queens-and-Long-Island).

³³ *Id.* (citing NYISO Final Recommendations at 16; Analysis Group, *Fuel and Energy Security in New York State – An Assessment of Winter Operational Risks for a Power System in Transition* at 70-74 (2019), https://www.nyiso.com/documents/20142/9312827/Analysis%20Gr curity%20Final% 20Report%2020191111%20Text.pdf (2019 Fuel Security Study)).

³⁴ Id. at 20 (citing N.Y. Envt'l. Conservation Law § 227-3).

peaking facility designs will be critical to maintain system reliability as New York State's transition continues. NYISO contends that, for these reasons, the peaking facility design for both Zone G (Rockland County) and Zone G (Dutchess County) should remain a dual fuel facility equipped with SCR technology.³⁶

a. <u>Comments and Protests</u>

28. IPPNY supports NYISO's proposal to include dual fuel capability for the peaking facility design used in establishing the G-J Locality ICAP Demand Curve. IPPNY contends that rejecting NYISO's proposal would unreasonably drive down reference prices and depress capacity prices.³⁷ IPPNY also agrees with NYISO that the peaking facility's need for siting flexibility (as well as the G-J Locality's reliance on natural gas) continues to support NYISO's dual fuel assumption. IPPNY further agrees with NYISO that the need for dual fuel capability in the region has become more pronounced since the last ICAP Demand Curve reset due to the effects of the Peaker Rule and the increasing constraints in the natural gas system.³⁸

29. Consumer Stakeholders oppose NYISO's proposal to include dual fuel capability for the peaking facility design used in establishing the G-J Locality ICAP Demand Curve because current laws, regulations, and New York State's reliability rules do not require that capability in Zone G.³⁹ Consumer Stakeholders assert that the NYISO Consultant assumes that the proposed peaking facilities would interconnect with LDCs, thereby subjecting the facilities to utility tariffs that require alternate fuel. However, Consumer Stakeholders argue that the proposed peaking facilities could instead interconnect with interstate gas pipelines, thus avoiding both the requirement and transportation charges.⁴⁰

30. Consumer Stakeholders also argue that, in Zone G, the EAS revenues attributable to dual fuel capability do not justify the cost of dual fuel capability. Citing the NYISO Consultant's reports, Consumer Stakeholders emphasize that there was no oil-fired generation from September 2016 to August 2017, or from September 2019 to August

³⁵ *Id.* at 16 (citing 2019 Fuel Security Study at 70-74).

³⁶ Id. at 20.

³⁷ IPPNY Comments at 8.

³⁸ Id. at 30-31 (citing NYISO Transmittal at 17-19).

³⁹ Consumer Stakeholders Protest at 3.

 40 *Id.* at 15-16. Consumer Stakeholder further claim that, all else equal, it is more economic for peaking facilities to interconnect with an interstate pipeline than with an LDC. *Id.*

2020, for the peaking facility in Zone G (Dutchess County). Consumer Stakeholders add that only five hours of such generation occurred from September 2018 to August 2019. Consumer Stakeholders argue that this data demonstrates that a dual fuel peaking facility in Dutchess County will not receive enough EAS revenues from oil-burn to justify investment in dual fuel capability, and therefore is not an economically viable technology as required by the Services Tariff.⁴¹

31. Consumer Stakeholders also assert that there is no nexus between dual fuel capability and improved system reliability. More specifically, Consumer Stakeholders argue that requiring a peaking facility to include dual fuel capability when not required by rule or law will increase capacity costs and require consumers to pay for a benefit that may not be realized.⁴²

b. <u>Answers</u>

32. In its answer, NYISO disagrees with Consumer Stakeholders that NYISO's recommendation is based on the assumption that the peaking facility design used in establishing the G-J Locality ICAP Demand Curve will interconnect to an LDC gas system. Rather, NYISO asserts that it expressly recognizes that Dutchess County provides options for a peaking facility to connect to either an LDC gas system or an interstate pipeline. NYISO reiterates that the inclusion of dual fuel capability provides for improved siting flexibility by preserving the option to connect to an LDC gas system with tariff-imposed dual fuel requirements.⁴³

33. IPPNY argues that the Commission should reject Consumer Stakeholders' arguments opposing the inclusion of dual fuel capability. IPPNY states that the same arguments opposing the inclusion of dual fuel capability for the peaking facility used in establishing the G-J Locality ICAP Demand Curve in this proceeding were raised, considered, and rejected in the last two ICAP Demand Curve reset proceedings.⁴⁴ NYISO similarly contends that this facility design remains appropriate.⁴⁵ In response to

⁴² *Id.* at 17. Consumer Stakeholders note, as an example, that Cricket Valley Energy Center, LLC is building a facility that can burn only natural gas. *Id.*

⁴³ NYISO Answer at 5 n.14.

⁴⁴ IPPNY Answer at 2, 13 (citing 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 91-92 (stating that, in the 2014-2017 DCR Order, the Commission found that including dual fuel capability for New York City, Long Island, and the G-J Locality was just and reasonable)).

⁴¹ *Id.* at 17-18 (citing NYISO Consultant Initial Draft Report, Ex. C, app. E at 7-10; NYISO Consultant Final Report at 298-299).

Consumer Stakeholders' specific arguments, IPPNY reiterates that the peaking facility design and cost elements are based on generic, rather than specific, site conditions. IPPNY adds that dual fuel capability provides reliability benefits in the G-J Locality because the ability to expand natural gas pipeline infrastructure and capacity in New York State is very limited. IPPNY states that, in the wake of the retirement of the second 1,000 MW Indian Point nuclear generating unit, fossil-fueled generators will be the primary generators, particularly during peak operating periods. Thus, according to IPPNY, dual fuel capability for the G-J Locality proxy peaking facility must be maintained.⁴⁶

c. <u>Deficiency Letter and Deficiency Response</u>

34. The Deficiency Letter requested that NYISO provide additional support regarding the anticipated increased revenue earning opportunities that arise for a dual fuel facility in the event of natural gas constraints and that it explain how those revenues may offset additional capital costs to include dual fuel capability for the peaking facility design for the G-J Locality. The Deficiency Letter also requested that NYISO explain: (1) how the fixed costs needed to construct gas laterals for a peaking facility to interconnect to an interstate gas pipeline are considered in determining anticipated revenues and capital costs; (2) whether the cost to secure firm capacity on an interstate pipeline is included in this assessment; and (3) the conditions that increase the need for siting flexibility.⁴⁷

35. In its Deficiency Response, NYISO explains that during the 2013/2014 and 2017/2018 winter months, natural gas prices exceeded oil prices during certain winter events.⁴⁸ NYISO states that cold weather events during these times presented opportunities for dual fuel facilities in the region to operate using alternative, lower-cost fuel sources.⁴⁹ NYISO explains that these events therefore created revenue earning opportunities for peaking facilities with the ability to operate on a lower cost, alternative fuel source during severe cold weather events.⁵⁰ For example, NYISO explains that its

⁴⁵ NYISO Answer at 5.

⁴⁶ IPPNY Answer at 13-14.

⁴⁷ Deficiency Letter at 2-3.

⁴⁸ Deficiency Response at 2-3.

⁴⁹ *Id.* at 3.

⁵⁰ Id. at 2-3 (citing NYISO, Winter 2013-2014 Cold Weather Operating Performance, at 19 (2014) https://www.nyiso.com/documents/20142/1402802/Winter%202013-1014%20NYISO%20Cold%20Snap%20Operations%20EGCW-MIWG.pdf; NYISO, proposed dual fuel peaking facility for Zone G (Rockland County) earned approximately 10% more energy market revenues than what was estimated for a natural gas-only facility during the first 12 months in the three-year historical period (September 2017 through August 2018) examined for the ICAP Demand Curves in the 2021/2022 Capability Year.⁵¹ NYISO states that, given this historical experience, a developer would reasonably consider the potential for recurrence of natural gas constraints that increase natural gas costs to a point that the ability to operate on alternative fuels provides additional energy market revenues during these periods. NYISO adds that there is an increased need for flexible generation that can respond to increased resource volatility due to the Climate Leadership and Community Protection Act (CLCPA).⁵²

36. Regarding natural gas pipeline interconnection costs, NYISO explains that the capital investment costs for the peaking facility used to develop the G-J Locality ICAP Demand Curve includes estimated gas lateral costs that are intended to accommodate the peaking facility's interconnection to an LDC system or interstate pipeline.⁵³ NYISO adds that the estimated operating profile of a peaking facility—1,355 hours per year—means that pursuing long-term firm transportation service from an interstate pipeline would be cost prohibitive.⁵⁴ NYISO also states that population centers and greater reliance on natural gas fired generation in the downstate region increase the likelihood of natural gas system constraints in the area.⁵⁵ Finally, NYISO explains that only portions of three interstate pipelines cross in limited areas in the lower Hudson Valley. Therefore, according to NYISO, siting a new peaking facility could require interconnection with an

Winter 2015 Cold Weather Operations, at 12, 19-20 (2015), https://www.nyiso.com/documents/20142/1397840/Agenda%205_Winter%202014-15%20Cold%20Weather%20Operations_1.pdf; NYISO, *Winter 2017-2018 Cold Weather Operations*, at 16, 19 (2018),

https://www.nyiso.com/documents/20142/1394512/Winter%202018%20Cold%20Weath er%20Operating%20Conditions.pdf (2017/2018 Winter Operations Report).

⁵¹ Id. at 4 (citing NYISO Transmittal at 30-32, attach. III, Ex. E, app. D).

⁵² *Id.* at 5.

 53 Id. at 6 (citing NYISO Transmittal at 18, 24-25; NYISO Consultant Final Report at 45; BMCD Aff. ¶ 36).

⁵⁴ NYISO explains that the peaking facility was dispatched at a 15% annual average capacity factor over the three-year historical period used to determine the ICAP Demand Curves for the 2021/2022 Capability Year. *Id.* (citing NYISO Transmittal at 18, 24-25; NYISO Consultant Final Report at 45; BMCD Aff. ¶ 36; MMU Aff. ¶ 27).

⁵⁵ Deficiency Response at 7.

LDC gas system to accommodate both gas and electric interconnection at reasonable costs. NYISO explains that since dual fuel capability is required for interconnection to LDC systems, this capability facilitates a developer's ability to interconnect to either an LDC system or interstate pipeline depending on the economics of either option and increases the potential that a developer could identify a site location that minimizes both electric and gas interconnection costs.⁵⁶

d. <u>Answers to Deficiency Response</u>

37. Consumer Stakeholders restate their position that NYISO's proposal is at odds with the Services Tariff requirement that the peaking facility be a technology with the lowest fixed costs and highest variable costs among all other units' technology that are economically viable because a gas-only facility has lower fixed costs than one with dual fuel capability and is economically viable.⁵⁷ Consumer Stakeholders add that it would be speculative to assume that a developer would include a capital investment cost that is not required by law or rule and, according to Consumer Stakeholders, is not supported by increased economic earnings.⁵⁸

38. Consumer Stakeholders also note that NYISO's data does not indicate frequent utilization of ultra-low sulfur diesel.⁵⁹ Consumer stakeholders further contend that NYISO's data concerning the 2013/2014 winter period is irrelevant to the 2021-2025 DCR because: (1) the 2013/2014 winter period is outside the present historical lookback period used for calculating revenues to determine the most economic proxy peaking facility; and (2) the 2013/2014 data would not affect the economics or reliance on dual fuel capability in the G-J Locality.⁶⁰ Finally, Consumer Stakeholders also contend that NYISO failed to provide any additional evidence or data supporting dual fuel as a reliability measure in the G-J Locality.⁶¹

39. IPPNY reiterates that the assumption of dual fuel capability is reasonable because it increases siting flexibility, provides flexible generation, and allows the peaking facility to earn more revenues. As evidence for these claims, IPPNY includes an Affidavit from CPV vice president Robert Barron, who explains that CPV Valley, LLC, chose to include

⁵⁶ Id. at 7-8.

⁵⁷ Consumer Stakeholders Answer at 2.

⁵⁸ Id. at 3-4.
⁵⁹ Id. at 4.

⁶⁰ Id. at 5.

⁶¹ Id.

dual fuel capability in its recently constructed combined-cycle power facility in Orange County, New York. Mr. Barron also argues that NYISO's modeling understates the net EAS revenue attributable to dual fuel capability because, for example, the net EAS calculations do not adequately reflect the risk that restrictions on the natural gas systems will cause gas prices to be much greater than the average daily gas price assumed in the model.⁶²

e. <u>Commission Determination</u>

40. The Services Tariff requires that NYISO recommend a peaking facility that, among other things, is economically viable.⁶³ We find NYISO's proposal to continue to model dual fuel capability for the peaking facility used in establishing the G-J Locality ICAP Demand Curve is just and reasonable and consistent with the Services Tariff. Although there are no mandatory dual fuel capability requirements in the G-J Locality, we agree with NYISO that a developer likely would include dual fuel capability in a new peaking facility in the G-J Locality for the reasons NYISO described in its transmittal and Deficiency Response. NYISO emphasizes siting concerns that drive the need for dual fuel capability. In particular, NYISO points out, and we agree, that the downstate portion of the G-J Locality is relatively geographically constrained, and dual fuel capability provides siting flexibility that minimizes both electric and gas interconnection costs.⁶⁴ Therefore, the inclusion of dual fuel capability is important for providing increased siting flexibility.⁶⁵ NYISO also demonstrates that the three-year historical period used to establish the ICAP Demand Curves in the 2021/2022 Capability Year supports instances when a dual fuel peaking facility could have earned more energy market revenues than what is estimated for a natural gas only facility.

41. In the past two ICAP Demand Curve resets, the Commission found that including dual fuel capability for a peaking facility used in establishing the G-J Locality ICAP <u>Demand Curve was just and</u> reasonable. In those proceedings, protestors noted that there

 62 IPPNY Comments on Deficiency Response at 2-4 (citing Barron Aff. $\P\P$ 5-6, 8-10, 13-14).

⁶³ NYISO, Services Tariff § 5.14.1.2.2 (30.0.0) (providing that "a peaking unit is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable, and a peaking [facility] is defined as the number of units (whether one or more) that constitute the scale identified in the periodic review").

⁶⁴ NYISO Transmittal at 18-20; Deficiency Response at 7-8.

⁶⁵ We acknowledge NYISO's claim that in 2019, the downstate region's constrained nature paired with increasing demand has resulted in certain LDCs imposing restrictions on service to new gas customers.

is no requirement for dual fuel capability to participate in NYISO's markets and that a generator can bypass LDC requirements by directly interconnecting to an interstate natural gas pipeline, similar to what Consumer Stakeholders argue here. In prior orders, the Commission found that dual fuel capability was necessary to ensure that there was an option to site the peaking facility in an LDC network to avoid significant costs from siting close to an interstate pipeline.⁶⁶ In its Deficiency Response, NYISO contends that costs to secure long-term firm transportation service from an interstate gas pipeline would be prohibitive because the estimated average 1,355 hours the peaking facility would be dispatched per year would not support such costs.⁶⁷ Thus, NYISO explains that its estimated gas interconnection costs assume the peaking facility may interconnect to either an LDC system or an interstate pipeline.⁶⁸ We find these assumptions to be reasonable, especially since interconnection to an LDC system may be a more economical choice for a developer and excluding dual fuel capability may limit such economical siting options.

42. We similarly find that Consumer Stakeholders' argument that the cost of dual fuel capability outweighs the potential increase in EAS revenues attributable to such capability fails to consider the additional costs of having to site sufficiently close to an interstate natural gas pipeline. We disagree with Consumer Stakeholders' argument that NYISO should instead assume that the peaking facility interconnects to an interstate pipeline to avoid an LDC system tariff (and thus the cost of dual fuel capability). Consumer Stakeholders fail to recognize that the purpose of the assumption is to allow the peaking facility flexibility to interconnect to either an LDC system or an interstate gas pipeline. We also disagree with Consumer Stakeholders' contention that there is no connection between dual fuel capability and improved system reliability. As NYISO notes, a recent study found that dual fuel capability, especially in the downstate region, was a key factor in maintaining reliability during the ongoing transition to a clean energy system.⁶⁹

43. The record here reflects that the rationale the Commission adopted in the past two orders on NYISO's ICAP Demand Curve resets in approving the inclusion of dual fuel capability for the peaking facility used in establishing in the G-J Locality ICAP Demand Curve continues to hold true. We also note that NYISO forecasts that the Peaker Rule could eliminate the summer availability of approximately 1,800 MW of nameplate

⁶⁸ Id.

⁶⁹ See supra note 35.

⁶⁶ 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 92 (citing 2014-2017 DCR Order, 146 FERC ¶ 61,043 at P 83).

⁶⁷ Deficiency Response at 6.

capacity, nearly all of which is either dual fuel or operates on a primary fuel other than natural gas. This will create further dependency on the remaining facilities with dual fuel capability in NYISO's fleet that will contribute to future reliability.

44. Finally, Consumer Stakeholders argue that NYISO has violated its Services Tariff by failing to select the peaking facility design with the lowest cost. However, Consumer Stakeholders misinterpret the Services Tariff to only require that the proposed peaking facility have the lowest fixed costs, rather than "the lowest fixed costs and highest variable costs among all other units' technology that are economically viable," as explicitly stated in the Services Tariff.⁷⁰ For the foregoing reasons, we find that including a peaking dual fuel facility design for the G-J Locality ICAP Demand Curve is consistent with the Services Tariff requirements and continue to find that the inclusion of dual fuel capability for the G-J Locality is just and reasonable.

3. <u>SCR Technology</u>

45. NYISO states that, consistent with the last two ICAP Demand Curve resets, it proposes that the peaking facility design for the G-J Locality ICAP Demand Curve include SCR technology to comply with applicable nitrogen oxides emissions requirements in New York State.⁷¹ NYISO explains that, to be constructed and operated in New York State, a peaking facility must comply with New Source Performance Standards and New Source Review requirements for applicable pollutants. NYISO states that the New Source Performance Standards include both the greenhouse gas and nitrogen oxides emission standards affecting the H class turbine. The New Source Performance Standards emissions limits, NYISO continues, establish a maximum allowable operating limit of 3,066 hours annually and require the H class frame turbine to limit its nitrogen oxides emissions rate to less than 15 parts per million by volume (ppmv) at 15% oxygen when operating on natural gas. NYISO explains that the standard H class frame turbine model has a nitrogen oxides emissions rate of 25 ppmv at 15% oxygen. As a result, NYISO states, the standard model would require the installation of SCR technology to comply with nitrogen oxides emissions standards.⁷²

46. The New Source Review program, NYISO explains, evaluates new facilities' impact on air quality based on a comparison of a criteria pollutant's concentration in a given area to the applicable National Ambient Air Quality Standard (NAAQS) for such pollutant. An area is designated as either an attainment (pollutant concentration levels below the applicable NAAQS) or non-attainment area (pollutant concentration levels in

⁷⁰ See NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0).

⁷¹ NYISO Transmittal at 10, 13 (citing 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 2, 58-59, 91).

⁷² *Id.* at 11 (citing NYISO Consultant Final Report at 21; BMCD Aff. ¶¶ 24-25).

excess of the applicable NAAQS).⁷³ NYISO continues that further designation is used for non-attainment areas to signify the degree of exceedance (e.g., designation as either moderate or severe non-attainment). NYISO states that new facilities constructed in attainment areas are subject to permitting under the Prevention of Significant Deterioration program, which applies Best Available Control Technology analysis to assess the requirement to include pollutant control technologies. NYISO explains that the NYISO Consultant concluded that a new facility in New York State subject to a Best Available Control Technology analysis would be required to install SCR technology to reduce nitrogen oxides emissions.⁷⁴

47. In lieu of installing SCR technology, NYISO states that a new facility could elect to synthetically limit its operating profile to maintain compliance with the applicable emissions limit for a particular pollutant. To pursue this alternative, NYISO adds, a new facility must accept an emissions cap that is below the actual threshold for such a pollutant. NYISO states that these new facilities are deemed synthetic minor sources and notes that the Commission has previously approved this approach for natural gas-only facilities located in an attainment area to avoid the need to install SCR technology for reducing nitrogen oxides emissions.⁷⁵

48. New facilities constructed in non-attainment areas are subject to permitting under the Nonattainment New Source Review program. This program, NYISO explains, uses a Lowest Achievable Emissions Rate in assessing the need for back-end controls to reduce emissions of a particular pollutant. NYISO concluded that this assessment, like the Best Available Control Technology analysis, would also require installation of SCR technology to reduce nitrogen oxides emissions.⁷⁶

49. NYISO states that Zone G (Rockland County), New York City, and Long Island are designated as severe non-attainment areas. Accordingly, NYISO states, the applicable nitrogen oxides limit for these locations is 25 tons/year and the Nonattainment New Source Review Program will require the installation of SCR technology to comply with New Source Review. According to NYISO, inclusion of SCR technology will allow the proxy facility to comply with the applicable nitrogen oxides emissions limits under both the New Source Performance Review Standards and the New Source Review requirements. NYISO also states that Zones G (Dutchess County), C, and F are attainment areas and are thus subject to less strict emissions standards. However, NYISO

⁷³ *Id.* (citing NYISO Consultant Final Report at 22-23; BMCD Aff. ¶ 26).

⁷⁴ Id. at 12 (citing NYISO Consultant Final Report at 23-23; BMCD Aff. ¶ 27).

⁷⁵ *Id.* (citing 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 60-67; 2014-2017 DCR Order, 146 FERC ¶ 61,043 at PP 74-77).

⁷⁶ *Id.* (citing NYISO Consultant Final Report at 23, 25-26; BMCD Aff. ¶ 26).

explains, because New York State is within the Ozone Transport Region, the applicable nitrogen oxides emissions limit is 100 tons/year. NYISO contends that, absent pursuing a synthetic minor approach, new facilities in these locations will also require the installation of SCR technology.⁷⁷

50. NYISO states that the inclusion of dual fuel capability significantly affects the viability of the synthetic minor approach described above. NYISO explains that this is because a dual fuel facility's decision to operate on ultra-low sulfur diesel (as opposed to natural gas) produces significantly higher nitrogen oxides emissions. According to NYISO, this severely limits the number of hours a dual fuel facility can operate annually under the emissions cap applicable to the synthetic minor approach. NYISO states that, due to the severely constraining nature of the emissions cap for operating on ultra-low sulfur diesel, NYISO has never proposed that a dual fuel facility pursue the synthetic minor approach in lieu of installing SCR technology when selecting the peaking facility used in the ICAP Demand Curve reset process.⁷⁸

51. Considering these proposed inputs and assumptions, NYISO proposes that the G-J Locality ICAP Demand Curve use a peaking facility located in Zone G (Rockland County). NYISO states that, because Rockland County is located within a severe non-attainment area, permitting requirements mandate that the peaking facility in that county include SCR technology to reduce nitrogen oxides emissions. NYISO states that certain stakeholders oppose NYISO's proposal to include SCR technology for the peaking facility in Zone G (Dutchess County). NYISO explains that these stakeholders argue that if SCR technology were not included in the peaking facility design for Zone G (Dutchess County), the resulting reference point price would be lower than the one for Zone G (Rockland County). For this reason, NYISO states, these stakeholders request that NYISO should remove SCR technology from the peaking facility design for Zone G (Dutchess) and use this location as the basis for the G-J Locality ICAP Demand Curve for the 2021-2025 DCR.⁷⁹

52. In response to stakeholders, NYISO explains that because the proposed peaking facility design for Zone G (Dutchess County) includes dual fuel capability and Zone G (Dutchess County) is designated as an attainment area that is within the Ozone Transport Region, the synthetic minor approach is not viable. NYISO continues that, depending on

⁷⁷ *Id.* at 13 (citing NYISO Consultant Final Report at 24-27; NYISO Staff Final Recommendations at 12-13; BMCD Aff. ¶¶ 27, 31-32, 34).

⁷⁸ *Id.* (citing NYISO Consultant Final Report at 14, 28, 31; BMCD Aff. ¶ 35; Analysis Group Aff. ¶ 41; NYISO Staff Final Recommendations at 14-15).

 79 Id. at 14-15 (citing NYISO Staff Final Recommendations at 14-15; NYISO Consultant Final Report at 30; Analysis Group Aff. ¶ 41).

the number of hours a dual fuel peaking facility operates on ultra-low sulfur diesel, the allowed hours of operation could be as low as 312 hours annually. According to NYISO, this constraint would not produce a viable peaking facility that appropriately supports reliability.⁸⁰ In support, NYISO states that it recently developed enhancements to the ICAP market to better accommodate the participation of resources subject to daily runtime limitations.⁸¹ These enhancements, which NYISO plans to implement beginning with the 2021/2022 Capability Year, include adjustments to ICAP payments based on each resource's relative contributions to resource adequacy. NYISO explains that resources must initially be capable of providing the energy equivalent of their ICAP obligation for at least six or eight hours of each day in order to receive 100% of the applicable ICAP payment. However, NYISO adds, once the incremental penetration level of resources subject to daily run-time limitations exceeds 1,000 MW, only resources capable of operating for at least eight hours a day will receive a full ICAP payment. According to NYISO, ensuring the capability to operate eight hours each day during the June through August time period, when load levels tend to be the greatest, requires the ability to operate for 720 hours over that period. Thus, NYISO contends, the potential for a peaking facility without SCR emissions controls be limited to 312 hours annually does not support the required level of resource availability.⁸²

a. <u>Comments and Protests</u>

53. IPPNY supports NYISO's proposal to include SCR technology for the peaking facility in Zone G (Dutchess County) and argues that rejecting the proposal would unreasonably drive down reference prices and depress capacity prices.⁸³ IPPNY agrees with NYISO that emissions restrictions could limit the annual operation of a dual fuel facility without SCR technology to as little as 312 hours per year, and that such a limitation is not practical for a resource needed to maintain reliability.⁸⁴ IPPNY states

⁸⁰ *Id.* at 15 (citing NYISO Consultant Final Report at 14-15, 28; Analysis Group Aff. ¶¶ 25, 41; BMCD Aff. ¶ 35; NYISO Staff Final Recommendations at 14-15). NYISO states that, comparatively, the synthetic minor approach for the gas-only peaking facility proposed for the NYCA ICAP Demand Curve affords such unit to operate for approximately 1,060 hours annually. *Id.* at 15 n.82.

⁸¹ *Id.* (citing NYISO, Proposed Tariff Revisions Regarding Establishment of Participation Model for Aggregations of Resources, Including Distributed Energy Resources, Docket No. ER19-2276-000 (filed June 27, 2019); *N.Y. Indep. Sys. Operator, Inc.*, 170 FERC ¶ 61,033 (2020)).

⁸² Id. at 16.

⁸³ IPPNY Comments at 8.

⁸⁴ *Id.* at 31 (citing NYISO Transmittal at 16).

that NYISO's studies show a growing need for flexible resources to balance the higher penetration of intermittent resources, and points out that NYISO is developing market products to value this flexibility. IPPNY also argues that New York State may implement more emission restrictions before reaching its carbon-free goal in 2040. In addition, IPPNY contends that SCR technology likely will be a prerequisite for any developer seeking local and state permits. IPPNY further contends that the recent Article 10 siting processes suggest that a new peaking facility in Zone G can expect intense local opposition, and developers therefore may regard SCR technology as a necessity.⁸⁵

54. NYTOs and Consumer Stakeholders oppose NYISO's proposal to include SCR technology for the peaking facility in Zone G (Dutchess County). NYTOs and Consumer Stakeholders argue that, because SCR technology is not legally required in Zone G (Dutchess County), NYISO has not selected the peaking facility technology that is economically viable and results in the lowest fixed costs, as required by the Services Tariff. In support of this argument, NYTOs cite the 2017-2021 DCR Order's rejection of NYISO's proposal to include SCR technology for facilities in areas that could be economically viable without SCR technology. NYTOs contend that it is economically feasible to develop peaking facilities without SCR technology in Zone G (Dutchess County) because it is an attainment area with less stringent nitrogen oxides emission limits than non-attainment areas like Rockland County.⁸⁶

55. NYTOs argue that several facts contradict NYISO's conclusion that a dual fuel peaking facility without SCR technology in Dutchess County could be limited to as low as 312 operating hours per year. First, NYTOs contend that, although the Dutchess County peaking facility would be subject to an annual emissions limit, it would not be subject to a daily run-time limit. Therefore, NYTOs argue, NYISO's new ICAP resource adequacy provisions will not apply to the peaking facility. NYTOs argue that, even if the Services Tariff did require the peaking facility to operate eight hours per day from June through August, NYISO's argument relies on the mistaken assumption that the dual fuel peaking facility would always operate on ultra-low sulfur diesel. NYTOs argue that a generator would operate 1,060 hours per year if operating only on natural gas, and should be able to operate 686 hours per year if operating on natural gas 50% of the time during a year.⁸⁷ Second, NYTOs argue that a fossil-fuel peaking facility's qualified

⁸⁶ NYTOs Protest at 6-7 (citing NYISO, Services Tariff, § 5.14.1.2.2; 2017-2021 DCR Order, 158 FERC ¶ 61,028 at PP 60-67; Consumer Stakeholders Protest at 8).

⁸⁵ Id. at 31-32 (citing David Patton & Pallas LeeVanSchaick, MMU Comments on Indep. Consultant Initial Draft ICAP Demand Curve Reset Report and the forthcoming draft of NYISO Staff DCR Recommendations (Aug. 5, 2020), https://www.nyiso.com/documents/20142/13609298/MMU-2020-DCR-Draft-Report-Comments.pdf/d31ba142-5af8-4b04-af51-1a275682a962 at P 12).

capacity for ICAP, i.e., the level of unforced capacity, depends on availability to operate. According to NYTOs, a generator that is always available, despite whether its annual operating hours are limited, will maximize the facility's qualified unforced capacity. NYTOs contend that an emissions limit could force a dual fuel peaking facility to be unavailable during the latter part of the 720-hour requirement (occurring in the summer) only if the facility ran on ultra-low sulfur diesel during most of the early summer, which is unlikely because natural gas prices are low in the summer.⁸⁸

56. In response to the NYISO Consultant's indication that SCR technology will increase the peaking facility's EAS revenues by \$0.17/kW-year over the three-year historical period, NYTOs contend that this increase does not justify the estimated \$11.39/kW-year cost to install SCR technology. NYTOs argue that, in order to support SCR technology as an economically viable investment, EAS revenues will need to increase significantly. NYTOs contend that the NYISO Consultant has provided no proof or analysis that EAS revenues will increase to such levels. Further, NYTOs argue that the expectation of an increase in EAS revenues conflicts with the projected increase in energy storage resources facilitated by the CLCPA and upcoming public policy transmission upgrades. Thus, NYTOs argue, it is highly unlikely that a generation developer would install SCR technology based on a belief in a future increase in EAS revenues.⁸⁹

57. NYTOs and Consumer Stakeholders argue that a peaking facility without SCR technology can be built in most areas in Zone G because Rockland County is the only severe non-attainment area in Zone G.⁹⁰ NYTOs further contend that generators will not choose to develop in Rockland County due to the higher cost. Consumer Stakeholders argue that NYISO's inclusion of SCR technology for peaking facilities in both areas defeats the purpose of studying both Zone G (Dutchess County) and Zone G (Rockland County) to determine which area (attainment or non-attainment) a developer would choose to locate a peaking facility. Consumer Stakeholders further contend that in Zone G (Dutchess County), a peaking facility with or without SCR technology could have similar impacts on air quality, and thus the decision to invest in SCR technology depends only on economics and capital cost.⁹¹

⁸⁷ Id. at 10 (citing BMCD Aff. \P 35).

88 Id. at 11.

89 Id. at 12-14.

⁹⁰ *Id.* at 14-15; Consumer Stakeholders Protest at 12.

⁹¹ Consumer Stakeholders Protest at 8, 12-13.

58. Consumer Stakeholders note that the NYISO Consultant initially recommended that the peaking facility in Zone G (Dutchess County) not include SCR technology, finding that a Zone G facility could meet emissions requirements by becoming a synthetic minor source with limited output.⁹² Consumer Stakeholders state that the NYISO Consultant subsequently reversed its recommendation, finding that: (1) SCR technology provides optionality to operate above the synthetic minor operating limit; and (2) future EAS revenues may be greater than EAS revenues in the historical years evaluated. Consumer Stakeholders argue that the NYISO Consultant's findings rely on speculation about future market conditions. Consumers Stakeholders state that the ICAP Demand Curve reset occurs every four years to reflect current market conditions and contends that speculative future market inputs in the model have generally been disfavored. Consumer Stakeholders add that the inclusion of SCR technology will overstate the net cost of new entry (Net CONE) and unnecessarily burden consumers for years to come, while rewarding existing generators with revenues for a technology they do not have.⁹³ Consumer Stakeholders regard stakeholder assertions that SCR technology may become a requirement in Zone G (Dutchess County) as speculative and note that the Commission has supported the use of annual operating limits, such as the synthetic minor approach, in lieu of SCR technology.94

b. <u>Answers</u>

59. In its answer, NYISO argues that protestors inappropriately suggest that the choice to include SCR technology for the dual fuel peaking facility in Zone G (Dutchess County) is purely an economic decision.⁹⁵ NYISO argues that on the contrary, NYISO must consider several other factors, including the technology's impact on reliability.

60. IPPNY argues that the Commission should reject Consumer Stakeholders' and NYTOs' arguments opposing the inclusion of SCR technology. IPPNY notes that the peaking facility design used to establish the G-J Locality ICAP Demand Curve has included SCR technology since 2013 and agrees with NYISO that nothing has changed to

⁹² Id. at 8-9 (citing Analysis Group, Inc. & BMCD, Indep. Consultant Study to Establish N.Y. ICAP Demand Curve Parameters for the 2021/2022 through 2024/25 Capability Years—Initial Draft Report at 29-30 (June 4, 2020)).

⁹³ Id. at 8-11 (citing NYISO Consultant Final Report at 30).

⁹⁴ *Id.* at 14 (citing 2017-2021 DCR Order, 158 FERC \P 61,028 at PP 60-61 (finding that SCR technology is not required for peaking facilities in Zones C and F, and acknowledging that the Article 10 permitting and certification process does not require SCR technology)).

⁹⁵ NYISO Answer at 4 (citing Consumer Stakeholders Protest at 8-15; NYTOs Protest at 6-15).

reduce the need for SCR technology. IPPNY also refutes arguments that the Commission's rejection of NYISO's proposal to include SCR technology for the NYCA peaking facility in the 2017-2021 DCR is relevant to the instant filing. IPPNY points out that, unlike the Zone G (Dutchess County) peaking facility, the NYCA peaking facility has not been and is not currently proposed to be dual fuel. Specifically, IPPNY states that the Commission distinguished between the NYCA and G-J Locality peaking facilities because only the latter included dual fuel capability, and the Commission determined that dual fuel capability supported the need for SCR technology.⁹⁶

61. IPPNY disagrees with protestors' argument that energy storage resources and additional transmission will reduce the required hours of operation of the peaking facility in Zone G (Dutchess County). IPPNY also argues that protestors fail to consider other system changes that will impose greater reliance on the peaking facility, like increased intermittent resources and the retirement of the Indian Point nuclear facilities.⁹⁷ In response to NYTOs' arguments related to run-time limitations, IPPNY argues that NYTOs misconstrue the purpose of establishing ICAP Demand Curves based on peaking facility technology. IPPNY emphasizes that the function of the proxy peaking facility is to be the reliability resource available under peak operating conditions.⁹⁸ As such, IPPNY contends that the pertinent issue is not whether the proxy facility would be subject to daily run-time limitations, but is whether the proxy peaking facility could be available during peak summer and winter operating periods.

62. IPPNY also claims that NYTOs' calculation that a proxy peaking facility with dual fuel capability would be able to operate for 686 hours per year if it were to operate on natural gas for half the time is incorrect. IPPNY contends that NYTOs arrived at this number by calculating 530 hours burning natural gas and 156 hours burning oil based on the unit being able to operate solely on gas for 1,060 hours per year. IPPNY argues that this calculation fails to reflect that each hour of burning oil uses the equivalent operating hours of approximately three hours burning natural gas. IPPNY continues that, if the peaking facility operated half its hours on natural gas, it would only be able to operate for 530 hours, which is well below the 720 hours required to operate during the June to August period to reliably support system operations.⁹⁹

⁹⁶ IPPNY Answer at 11 (citing 2017-2021 DCR Order, 158 FERC ¶ 61,028 at 59).

⁹⁷ *Id.* at 12 (citing GenOn Protest, attach. 1, Scott Aff. ¶ 54 (claiming that the retirement of the first 1,000 MW Indian Point nuclear unit in May 2020 has resulted in increased demand for fossil-fueled generation, and noting that the second 1,000 MW Indian Point nuclear unit will retire in April 2021)).

98 Id. at 8.

99 Id. at 9-10.

c. <u>Commission Determination</u>

63. We accept NYISO's proposal to include SCR technology in the peaking facility design used in establishing the G-J Locality ICAP Demand Curve.¹⁰⁰ We find that NYISO provides sufficient evidence to support its proposal to include SCR technology for the G-J Locality. We note that the current ICAP Demand Curve for this region uses a peaking facility design that includes SCR technology, and the record describes no change since the previous ICAP Demand Curve reset that would eliminate the need for SCR technology in the G-J Locality.¹⁰¹ The assumption of dual fuel capability for the peaking facility supports the need for SCR technology because, as NYISO explains, operating on a dual fuel peaking facility's alternative fuel source produces much higher nitrogen oxides emissions than operating on natural gas alone.¹⁰² While Dutchess County is located in an attainment zone, it is also located in an Ozone Transport region that is subject to a nitrogen oxides emission limit of 100 tons/year.

64. We also agree with NYISO that, depending on how often a dual fuel peaking facility operates on ultra-low sulfur diesel, the allowed hours of annual operation under the synthetic minor operating limit could be as low as 312 hours. As NYISO explains, this level of operation would likely not be viable for the peaking facility, nor would it meet new ICAP run time requirements in NYISO that will take effect at the start of the 2021/2022 Capability Year. Therefore, we agree with NYISO that a peaking facility may be precluded from using the synthetic minor approach to comply with nitrogen oxides emission limits.

65. NYTOs contend that the peaking facility could be available eight hours per day in the summer as long as it frequently burned natural gas in the early summer. However, our determination relies on considerations beyond a peaking facility's summer availability. NYTOs' argument fails to acknowledge winter operating hours and that annual limits, albeit indirectly, can result in daily run-time limits. Specifically, a peaking facility without SCR technology may limit daily availability to ensure annual operation hours comply with annual emission requirements. We therefore find that the absence of SCR technology will inappropriately reduce the potential number of annual operating hours for a peaking facility with dual fuel capability. We find it is reasonable for NYISO

¹⁰¹ See 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 58 (approving use of SCR technology as part of the peaking facility design for the New York City, LI, and G-J Locality ICAP Demand Curves).

¹⁰² NYISO Transmittal at 13.

¹⁰⁰ We note that no party protests NYISO's proposal to include SCR technology in the peaking facility design for either Zone G (Rockland County) or the New York City and Long Island ICAP Demand Curves.

to choose a reference technology that satisfies certain minimum requirements, and, therefore find that it is reasonable for NYISO to consider whether a facility is capable of meeting the operating requirements necessary to participate in the ICAP market.¹⁰³ We therefore disagree with arguments that a cost-benefit analysis of SCR technology should be NYISO's only consideration. These arguments ignore that a peaking facility must be able to meet NYISO's minimum operating requirements in the ICAP market. Because SCR technology allows the peaking facility to contribute meaningfully to reliability and meet NYISO's minimum operating time requirements, a peaking facility technology with SCR technology for Zone G is just and reasonable.¹⁰⁴

66. Finally, we disagree with the contention that the inclusion of SCR technology in the dual fuel peaking facility design for Zone G (Dutchess County) will inappropriately reward existing and future dual fuel facilities without SCR technology. We find that NYISO has followed the requirements contained in its Service Tariff ¹⁰⁵ and that arguments speculating about existing and future generator compensation do not demonstrate otherwise. For these reasons, we find that there is sufficient evidence in the record to conclude that NYISO's proposal to include SCR technology in the peaking facility design used in establishing the G-J Locality ICAP Demand Curve is just and reasonable.

4. <u>Peaking Facility Costs</u>

67. The Services Tariff requires that the ICAP Demand Curve reset process assess "the localized, levelized embedded cost of a peaking [facility]" used in establishing each ICAP Demand Curve.¹⁰⁶ NYISO contends that the NYISO Consultant conducted an analysis to develop estimates of the capital investment costs for the peaking facility designs for each ICAP Demand Curve, as well as the associated fixed and variable operations and maintenance (O&M) costs for each peaking facility. NYISO states that the NYISO Consultant developed cost estimates based on a generic site in each location evaluated.¹⁰⁷

¹⁰³ Protestors do not demonstrate that a dual fuel peaking facility would operate using natural gas for enough hours on an annual basis to reasonably meet the requirements to operate 720 hours during NYISO's Summer Capability Period.

¹⁰⁴ See NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0) (providing that "a peaking [facility] is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable").

¹⁰⁵ See NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0) (providing that "a peaking unit is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable").

68. NYISO states that capital investment costs include the installed cost of the peaking facility, owner's costs, and financing during construction. NYISO states that the installed cost estimates reflect use of an engineering, procurement, and construction contract. NYISO states that owner's costs consist of various cost categories, including development activities, project management oversight, project engineering, permitting, legal fees, financing during construction, initial fuel inventory for dual fuel facility designs, and emissions reduction credits.¹⁰⁸

69. NYISO states that certain stakeholders oppose the proposed owner's cost estimates. NYISO explains that these stakeholders argue that the owner's cost estimates are understated and do not appropriately account for certain costs of developing a new gas-fired generator in New York State. In response to these concerns, NYISO states that the NYISO Consultant performed a comparative assessment of the aggregate total of the owner's cost components from the 2017-2021 DCR to the same costs for the current, 2021-2025 DCR. According to NYISO, after escalating the costs from the 2017-2021 DCR to current year dollar values, very little divergence in costs was identified.¹⁰⁹

70. NYISO explains that for locations other than New York City, the gas pipeline interconnection cost estimate consists of two components: (1) an estimated cost of \$3.5 million for a metering and regulation station; and (2) an estimated average gas lateral cost of \$250,000 per inch diameter mile. NYISO states that, based on its experience, the NYISO Consultant assumed a five-mile, 16-inch diameter lateral for the peaking facilities proposed in the instant filing. NYISO states that for New York City, the estimated gas interconnection assumes a one mile, 16-inch diameter lateral for the proposed peaking facilities proposed for New York City. NYISO states that the total estimated cost of the gas lateral for New York City is \$20 million, consisting of a \$5 million estimated cost for a metering regulation station and \$15 million for the one-mile lateral.¹¹⁰

¹⁰⁷ NYISO Transmittal at 20-21 (citing NYISO Consultant Final Report at 36-59 & app. A; Analysis Group Aff. ¶¶ 19-24, 28-29; BMCD Aff. ¶¶ 10-20, 28-29).

¹⁰⁸ *Id.* at 21-22 (citing NYISO Consultant Final Report at 42, 45-47 & app. A; BMCD Aff. ¶¶ 14-16). NYISO states that, for dual fuel facilities, the initial fuel inventory provides the capability to operate the proposed peaking facilities for 96 hours before needing to replenish the ultra-low sulfur diesel supply. *Id.* at 22 n.16.

¹⁰⁹ *Id.* at 22-24 (citing BMCD Aff. ¶¶ 41-45). NYISO states that BMCD conducted this cost comparison using a dual fuel H class frame turbine peaking facility equipped with SCR technology in Zone G (Dutchess County). *Id.*

 110 Id. at 24 (citing NYISO Consultant Final Report at 45 & app. A; BMCD Aff. \P 36).

71. NYISO states that certain stakeholders argue that the average per inch diameter per mile costs for a gas lateral are understated, especially in the lower Hudson Valley. In response to stakeholder concerns, NYISO states that the NYISO Consultant conducted a further review and increased the assumed linear cost of a gas lateral from \$180,000 to \$250,000 per inch diameter mile for locations other than New York City.¹¹¹

72. NYISO states that fixed O&M costs consist of two components: (1) fixed facility expenses (facility staff, labor, routine maintenance, safety equipment, building and grounds maintenance, and administrative and general expenses); and (2) fixed non-operating expenses (site leasing costs, property taxes, and insurance). NYISO states that, consistent with the methodology used in the last two resets, the assumed land lease costs were derived based on escalating values used in the 2017-2021 DCR. NYISO states that the resulting land lease costs are as follows: (1) \$22,000 per acre-year for Zones C, F, G (Dutchess County), and G (Rockland County); (2) \$26,000 per acre-year for Long Island; and (3) \$270,000 per acre-year for New York City.¹¹²

73. NYISO states that certain stakeholders raised concerns that the assumed land lease costs for New York City are understated. In response to these concerns, NYISO states that the NYISO Consultant performed a supplemental analysis in which it reviewed property value data for more than 15 representative sites and estimated lease rates relating thereto from a variety of sources. NYISO states that this evaluation showed a high level of variability in the potential lease costs for sites in New York City, ranging from \$10,000 to \$1 million per acre-year. According to NYISO, the average land lease cost estimated for the sites evaluated was \$160,000 per acre-year, but that based on the variability observed, the NYISO Consultant concluded that the assumed land lease cost of \$270,000 per acre-year was reasonable for this ICAP Demand Curve reset. NYISO states that this recommended value is consistent with the expectation that a developer in a competitive market would seek to lower its overall costs to the extent practicable.¹¹³

a. <u>Comments and Protests</u>

74. IPPNY and CPV argue that NYISO's proposal significantly underestimates owner's costs. IPPNY and CPV argue that NYISO excludes merchant generation facility developers' hedging arrangement costs. IPPNY states that lenders typically require energy margin hedging for all new merchant natural gas facilities, which requires considerable upfront funding from developers. CPV and IPPNY argue these hedging costs are necessary to finance a merchant generation facility in New York. In support of

¹¹¹ Id. at 24-25 (citing NYISO Consultant Final Report at 19; BMCD Aff. ¶ 37).

¹¹² Id. at 24-26 (citing NYISO Consultant Final Report at 48-51).

¹¹³ *Id.* at 26-27 (citing NYISO Consultant Final Report at 49; BMCD Aff. ¶¶ 19, 38-40; NYISO Staff Final Recommendations at 24 & app. C).

its argument, CPV explains that a hedge is not an alternative to paying the full debt cost of a merchant project.¹¹⁴ CPV further contends that NYISO understands that a hedge arrangement would typically require up-front funding and be structured to provide generators with additional payments if their gross margin falls below a certain level, helping to ensure that the generator has sufficient cash on hand to continue operating and making debt payments regardless of market outcomes.¹¹⁵

75. CPV argues that NYISO misconstrues a relationship between energy hedge arrangements and the cost of debt that a lender will assess under financing arrangements. CPV contends, however, that energy hedges are separate financial arrangements that, like an insurance policy, are intended to ensure that revenue streams will be sufficient to cover debt payments. CPV argues that NYISO, in deciding not to include the cost of a hedge agreement, effectively assumes revenue certainty. CPV contends that this is at odds with the Commission's recent acknowledgement of such hedges' significance in its order removing the price-lock mechanism that had been in effect as part of the capacity market rules under ISO New England Inc.'s tariff.¹¹⁶ For these reasons, IPPNY and CPV contend that NYISO should reflect the costs of hedging mechanisms typically required to finance new merchant natural gas facilities in the capital costs of the proxy peaking facility.

76. CPV states that, according to NYISO, developers' costs to arrange financing are included in the cost of construction financing. However, CPV argues that this claim is at odds with NYISO's assertion that the construction financing rate reflects the 55/45 debt-to-equity ratio and 6.7% cost of debt assumed for the project as a whole. Moreover, CPV argues, the claim is at odds with the 2017-2021 DCR, which established financing fees of \$5.8 million separately from construction financing costs.¹¹⁷

77. CPV adds that NYISO has decreased its estimate of owner's costs, relative to its estimate in the 2017-2021 DCR, from \$8.7 million to \$370,000. IPPNY also argues that NYISO underestimates the development costs and permitting fees associated with the development of a gas-fired generation facility in New York. IPPNY argues that development and permitting fees have been \$37,200,000, which is ten times NYISO's proposed amount.¹¹⁸ CPV disagrees with NYISO's contention that this difference arises

¹¹⁶ Id. at 24-25 (citing ISO New England Inc., 173 FERC ¶ 61,198, at P 74 (2020)).

¹¹⁷ *Id.* at 22-23 (citing 2017-2021 DCR Filing, attach. III, Ex. D at 113).

¹¹⁴ CPV Protest at 24; IPPNY Comments at 17-18.

¹¹⁵ Id. (citing NYISO Staff Recommendations at 26-27).

only because these costs have been embedded into the direct costs for the equipment. CPV points out that when asked to demonstrate that these adjustments were made, the NYISO Consultant responded that the data reviewed shows that, overall, owner's costs have not declined.¹¹⁹ In addition, CPV argues, the high-level comparison of select costs is not meaningful, and a comparison of total costs does not justify omitting a \$10-million-plus cost category. CPV argues that because NYISO has failed to provide any detailed information as to how, and at what level, development costs are embedded into direct equipment costs, stakeholders are left in the impossible position of proving a negative without any data. CPV argues that absent such data, the Commission should direct NYISO to include a separate owner's cost amount comparable at least to the level included in the 2017-2021 DCR.¹²⁰

78. CPV also argues that NYISO's analysis contains three flaws that cause NYISO to underestimate the cost to build a natural gas lateral pipeline. First, CPV notes that three of the six projects analyzed are interstate pipelines each at least 100 miles in length, but that NYISO's analysis assumes that the lateral pipeline necessary to connect a natural gas peaking facility to the local pipeline is five miles in length.¹²¹ Therefore, according to CPV, the economies of scale associated with a 100-plus-mile pipeline project will not be attainable for the laterals. Second, CPV notes that none of the three interstate pipeline projects analyzed have been completed, as one project was cancelled and the other two were delayed. Therefore, CPV argues, the cost estimates for these lateral pipeline projects do not reflect the final project costs, which may ultimately be much higher. Third, CPV argues that NYISO arbitrarily discarded the highest- and lowest-cost pipeline projects from its cost average, without explaining why the omissions were necessary. CPV argues that because the two natural gas lateral projects established the highest- and

¹¹⁸ IPPNY Comments at 18-19 (citing Anderson Aff. ¶ 6).

¹¹⁹ CPV Protest at 23. CPV states that to the extent NYISO intended for these costs to be covered in the contingency that is included in the development of the CONE, the currently proposed contingency is far too low and is not clearly supported in the transmittal. *Id.* at 23 n.57 (citing NYISO Transmittal, attach. III, Ex. E at 43 (stating that "Owner's costs include allowances for items such as development activities, project management oversight, Owner's Engineer, legal fees, financing fees, ERCs, fuel inventories, builder's risk insurance, and additional contingency")).

¹²⁰ Id. at 23-24.

¹²¹ *Id.* at 9 (citing NYISO Transmittal at 24; BMCD Aff. ¶ 36). CPV notes that NYISO's transmittal describes five projects, but the supporting materials discuss six projects. CPV assumes that six projects were analyzed. *Id.* at 8 n.9 (citing BMCD Aff. ¶ 37).

lowest-cost values, NYISO excluded the two most relevant projects and now relies solely on three interstate pipeline projects and a system expansion project, none of which are currently in service.¹²²

79. CPV argues that NYISO should base its natural gas lateral cost estimates on comparable projects that meet sensible criteria, such as gas pipeline projects that: (1) connect generation facilities to interstate pipelines with laterals that are shorter in length, consistent with the five-mile estimate; (2) are completed or are nearly complete and thus reflect the current regulatory environment and near final costs; and (3) are in or within the vicinity of New York. CPV argues that if NYISO had based its analysis on data for comparable projects, natural gas lateral costs would have been approximately \$897,000 per inch-mile.¹²³ CPV states that these actual costs were filed with the Commission and leave no room for interpretation.¹²⁴ CPV contends that invoices should trump estimates when they are current and available.

80. IPPNY also urges the Commission to require NYISO to increase its assumed natural gas lateral pipeline construction costs to reflect the actual costs incurred by New York developers in recent years.¹²⁵ IPPNY acknowledges that the NYISO Consultant increased the proposed gas pipeline interconnection cost from \$180,000 to \$250,000 per inch mile diameter in response to stakeholder comments. However, IPPNY contends that this increase is not enough. Specifically, IPPNY claims that it demonstrated that costs for a recent project in Zone G (Rockland) were roughly \$522,000 per inch diameter mile, more than 200% higher than the NYISO Consultant's initial recommendation. IPPNY supports CPV's analysis that IPPNY claims has demonstrated costs closer to \$950,000 per inch diameter mile, nearly quadruple the NYISO Consultant's final recommendation.¹²⁶

81. IPPNY argues that NYISO's proposed number is low because it relies on five projects that have not been completed and therefore do not provide reliable preliminary cost estimates and, even if they did, would benefit from economies of scale that a lateral pipeline a fraction of the size would be unlikely to achieve. According to IPPNY, the

¹²² Id. at 9-10 (citing NYISO Transmittal at 25; BMCD Aff. ¶ 37).

¹²³ *Id.* at 10 (citing Nugent Aff. ¶¶ 3-8).

¹²⁴ *Id.* at 12 (citing Millennium Pipeline Co., Supplemental Info., Cost Completion Report, Docket No. CP16-17-000 (filed Oct. 26, 2018) (showing total Valley Lateral Project cost of \$60,900,257)).

¹²⁵ IPPNY Comments at 19-20.

¹²⁶ Id.

only project considered by the NYISO Consultant that is comparable to the peaking facility is the Bayonne Lateral Delivery Project that was completed in 2012, which IPPNY contends was before the current level of hostility towards fossil fuel infrastructure in New York State.¹²⁷

82. IPPNY also argues that the site leasing cost assumptions for Zone J do not reflect the actual costs to lease land suitable for facility construction in New York City. IPPNY again contends that NYISO underestimates the site leasing costs for Zone J because the NYISO Consultant relies on data that IPPNY believes is flawed.¹²⁸ IPPNY claims that the NYISO Consultant merely adjusted for inflation what IPPNY describes as "stale data" developed in the 2010 ICAP Demand Curve reset. IPPNY claims that NYISO ignored evidence that IPPNY provided from an independent appraiser showing that the value of land that is suitable for proxy peaking development in Queens and Brooklyn is roughly double the NYISO Consultant's estimated \$270,000/acre-year cost. IPPNY claims that the NYISO Consultant's affidavit submitted with NYISO's filing does not support NYISO's proposal because it does not demonstrate whether the land was suitable for facility construction.¹²⁹

b. <u>Answers</u>

83. NYISO states that the engineering and design firm used for the 2021-2025 DCR is not the same entity used for the last ICAP Demand Curve reset, and discrepancies in the cost estimates are a result of differences in methodologies and cost categorization employed by the different firms. NYISO argues that attempting a line-item by line-item comparison of cost estimates from the last reset is inappropriate and produces misleading results. NYISO notes that the NYISO Consultant found, after adjusting for inflation, that the aggregate owner's cost estimates differ by less than \$200,000 (or roughly 0.3%) for an equivalent peaking facility design and location, and that the difference for total aggregate capital costs differed by less than 1%.¹³⁰

84. NYISO states that the NYISO Consultant evaluated confidential and public data on generation projects to develop a linear cost estimate of interconnecting to the natural gas pipeline network, noting that non-linear gas interconnection costs include metering, regulation equipment, and compressor station costs. NYISO states that the publicly available cost data confirmed the reasonableness of the NYISO Consultant's \$250,000

¹²⁷ Id. at 20.

¹²⁸ Id. at 20-21.

¹²⁹ *Id.* at 21-22 (citing BMCD Aff. ¶ 39).

 130 NYISO Answer at 13-14 (citing NYISO Transmittal at 22-23; BMCD Aff. \P 45).

estimate. NYISO explains that the NYISO Consultant excluded non-linear gas interconnection costs in its evaluation of public data, which NYISO explains is consistent with the separate \$3.5 million cost component identified for non-linear costs that, when combined with the linear per inch diameter per mile costs, comprise the total gas interconnection costs.¹³¹ NYISO states that when evaluating linear pipeline costs the NYISO Consultant determined that they ranged from \$100,000 to \$500,000 per inch per diameter per mile, and the average value of the dataset is \$260,000. NYISO argues that, while its dataset includes longer-distance pipeline projects, the two gas lateral projects in the dataset represent the highest and lowest values in the NYISO Consultant's observed range for linear cost estimates. Therefore, NYISO explains, if the longer-distance pipeline projects were excluded, the average cost would remain between the upper and lower bound of costs for the dataset.¹³² Further, NYISO states that a dataset representing multiple projects excludes cost estimates based on a single project, which avoids unnecessary costs based on the specific conditions and challenges that can vary among individual projects. NYISO also argues that CPV's linear cost estimates are inaccurate and overstated because they include non-linear gas interconnection costs and use examples that inaccurately assign all lateral costs to the generation facility.¹³³

85. NYISO states that, although the assumed land lease cost estimate for New York City was initially calculated by escalating values from the last ICAP Demand Curve reset, the NYISO Consultant conducted a supplemental analysis to confirm the reasonableness of the escalated values and that supplemental analysis considered the appraisal information submitted by protestors.¹³⁴ NYISO asserts that the supplemental analysis identified significant variability in lease costs for potential sites in New York City and that the appraisal data was not appropriate for broader application to all potential generation sites. NYISO states that the proposed lease cost for the 2021-2025 DCR represents a reasonable value within the range of the average lease cost observed across multiple properties adjacent to existing generation facility sites in New York City, and the value proposed by NYISO is consistent with the expectation that a developer of a new generation facility in a competitive market will seek to minimize its costs to the extent practicable.¹³⁵

86. CPV argues that NYISO provides no substantive response to any of CPV's arguments about the exclusion of financing or hedging costs in the proposed owner's

¹³¹ NYISO Answer at 7-9.

¹³² *Id.* at 9.
¹³³ *Id.* at 9-10.
¹³⁴ *Id.* at 11-12.

¹³⁵ *Id.* at 12.

costs estimate. CPV asserts that NYISO's answer only restates that these hedging costs are included in the cost of debt and that a different engineering and design consultant was used for the 2021-2025 DCR.¹³⁶ CPV continues that NYISO does not attempt to show how financing, development, and hedging costs are incorporated in the 2021-2025 DCR.

87. CPV also argues that it is impossible to verify the confidential data that supports NYISO's analysis of gas lateral costs and that NYISO should not be allowed to utilize this data. CPV states that costs reflected in the CONE should be verifiable and that including verifiable costs should not require NYISO to exclude the two longer-distance gas laterals and recalculate the average cost. CPV argues that if non-linear costs are removed in CPV's analysis, the gas lateral cost estimates are still three times larger than NYISO's proposed estimates.¹³⁷ CPV contends that the Commission should consider whether NYISO should propose gas lateral costs based on actual data for comparable projects that are constructed or under construction, or based on the NYISO Consultant's nonpublic assessments that include 100-mile or longer interstate gas pipelines that are unlikely to be constructed.

c. <u>Deficiency Letter and Deficiency Response</u>

88. The Deficiency Letter requested that NYISO explain how development, engineering, and financing costs are accounted for in the 2021-2025 DCR's owner's cost estimate by explaining which categories are intended to reflect these costs, and how these costs were incorporated as "all in" costs for electrical and gas interconnections.¹³⁸

89. NYISO explains that capital investment costs include engineering, procurement, and construction, owner's costs, and financing costs during construction. NYISO provides a table from the NYISO Consultant's Final Report that outlines capital investment costs for the Zone G (Dutchess County) peaking facility.¹³⁹ NYISO explains that owner's cost estimates represent allowances for reasonable costs in particular categories for a generic facility, not cost estimates specific to a project at a certain location, which can vary significantly depending on the project. NYISO states that the methods used to develop these proposed cost estimates are consistent with typical industry practices for generic development projects.¹⁴⁰

¹³⁶ CPV Answer at 9-10.

¹³⁷ *Id.* at 1-2, 4.

¹³⁸ Deficiency Letter at 3-4.

 139 Deficiency Response at 9-11 (citing NYISO Consultant Final Report, app. A; BMCD Aff. $\P\P$ 41-45).

¹⁴⁰ *Id.* at 9 (citing BMCD Aff. ¶¶ 14-15, 42-43).

90. NYISO states that the engineering, procurement, and construction portion of cost estimates include labor, materials, turbines, and other indirect costs, with remaining project costs included in the owner's costs portion of cost estimates.¹⁴¹ NYISO lists numerous owner's cost items included in the 2021-2025 DCR estimates, such as costs of operating employee salaries prior to the commercial operating date for the facility and personnel costs to manage the project. NYISO explains that cost estimates for electrical, gas, and water interconnection are intended to be all-in, if applicable, and therefore are total costs that account for development, engineering, procurement, and construction activity costs.¹⁴²

91. NYISO states that construction financing costs are accounted for in the estimated cost of financing during construction. According to NYISO, construction financing costs, such as allowances for funds used during construction and interest during construction, are included in owner's costs. NYISO explains that for its proposed H class peaking facility options, construction financing costs are estimated at 6.8% of overnight capital costs for a 24-month duration, which is applied to both engineering, procurement, construction, and other portions of the project.¹⁴³

d. <u>Commission Determination</u>

92. We find that NYISO's proposed level of owner's costs for design, permitting, and financing during construction is just and reasonable. We are not persuaded by protestors' arguments that NYISO failed to reflect the costs of hedging mechanisms in the capital costs for the peaking facility. We discuss arguments regarding hedging costs and the cost of debt further in our determination on NYISO's proposed financial parameters for the 2021-2025 DCR, see IV.B.4.d.

93. Further, we reject protestors' arguments that the estimated owner's costs, including financing costs, are inconsistent with the estimates in the 2017-2021 DCR. NYISO notes that it used a different engineering and design consultant for the 2017-2021 DCR and, subsequently, a different cost categorization and methodology.¹⁴⁴ Importantly, NYISO explains that the aggregate owner's costs between the 2017-2021 DCR and the 2021-2025 DCR differ by only 0.3%. Discrepancies in individual line item cost estimates do not make the results unjust and unreasonable, especially when the total costs are comparable with the last ICAP Demand Curve reset. As NYISO explains in its Deficiency Response, owner's costs can vary significantly due to a variety of factors.

- ¹⁴¹ *Id*. at 11.
- ¹⁴² *Id.* at 12-13.
- ¹⁴³ Id. at 13-15.
- ¹⁴⁴ NYISO Transmittal at 23.

Considering that NYISO's estimated owner's costs are defined for a hypothetical facility, these costs may not precisely match costs that specific generation facilities at specific sites have incurred. However, we find that NYISO has adequately justified its cost estimates for the hypothetical facility, which NYISO must estimate costs for based on the requirements set forth in the NYISO Services Tariff. Further, we reject the argument that NYISO failed to provide detailed information on development costs. NYISO provides supporting data that explains these costs in sufficient detail and demonstrates the costs are consistent with the 2017-2021 DCR.¹⁴⁵

94. We also find that NYISO's proposed gas lateral costs are reasonable. In response to CPV's concerns, we note that NYISO and the NYISO Consultant evaluated publicly available data on the costs of five recent projects in New York State. Specifically, NYISO explains the gas interconnection costs for the public dataset the NYISO Consultant evaluated, which includes only linear costs, ranged from \$100,000 to \$500,000, with an average of \$260,000. NYISO states that the two gas lateral projects set the upper and lower bound of values in the cost range for the project dataset evaluated, and the recommended \$250,000 per inch per diameter per mile gas lateral costs represents an average in this range. We conclude that an analysis of a variety of pipeline projects is sufficient to support NYISO's proposed gas lateral costs. While protestors argue the estimated cost is understated, we find it reasonable that the estimate reflects an average cost among pipeline projects that vary in size and location, allowing the estimate to be generally applicable. As NYISO explains, evaluating multiple projects avoids including uncharacteristically high or low costs of particular projects that result from inherent variations in costs due to specific conditions or challenges a given project may face. Thus, we find the project dataset on which NYISO bases its recommendation is reasonable.

95. We agree with NYISO that it would be unreasonable to include the per-mile-inch costs proposed by CPV in the estimate because these costs include non-linear costs such as metering, regulation, and compressor station costs, which are already captured in the separate \$3.5 million cost component proposed by NYISO. Although CPV responds with a revised analysis that removes these non-linear costs, we are not persuaded that NYISO's estimate is unjust and unreasonable. Importantly, NYISO explains that if costs for longer-distance lateral pipeline projects are excluded, the proposed gas lateral cost remains near the midpoint of the two gas lateral projects because they represent the upper and lower bound in the range of costs evaluated.¹⁴⁶ These facts undermine protestor arguments that the three longer-distance projects skew the cost estimate downward. We also find it reasonable that the NYISO Consultant utilized confidential data to develop an estimated gas lateral cost. Contrary to CPV's arguments, we find that the NYISO

¹⁴⁶ NYISO Answer at 7-9.

¹⁴⁵ Id. (citing BMCD Aff. ¶ 45); Deficiency Response at 10, 12, 16.
Consultant's analysis was transparent and reasonable because the average cost derived from this confidential cost data was further corroborated by an analysis of publicly available data.

96. Further, we find that NYISO's estimated land lease cost for a peaking facility in New York City is just and reasonable. We agree that NYISO's estimated land lease cost falls within a reasonable range of annual lease values for sites suited for facility construction in New York City. We believe NYISO's methodology for estimating these costs is just and reasonable as it accounts for market data, property tax values, and stakeholder feedback consistent with prior ICAP Demand Curve resets.¹⁴⁷ We recognize that NYISO considered IPPNY's real estate appraisals before making its final recommendation and find that, based on the variability observed by the NYISO Consultant, NYISO's proposed land lease estimate is reasonable when compared with the more narrow results of IPPNY's appraisals. As such, we find that NYISO provided sufficient information to produce an estimate that reasonably represents the cost of land in New York City for facility construction.

C. <u>Net EAS Revenue Offset</u>

97. The Services Tariff requires NYISO to assess "the likely projected annual [EAS] revenues of the peaking [facility] . . . net of the costs of producing such" EAS for each ICAP Demand Curve (net EAS revenue offset).¹⁴⁸ NYISO states that these estimates are updated annually pursuant to tariff-prescribed annual updating procedures to ensure that the ICAP Demand Curves incorporate changes in market outcomes over time. NYISO states that its proposed net EAS model for the 2021-2025 DCR is substantially similar to the model the Commission approved for the last reset.¹⁴⁹

98. NYISO states that the net EAS model proposed in this filing determines the annual net EAS revenues each peaking facility could potentially earn based on 36 months of <u>historical data on market prices and variable costs.</u>¹⁵⁰ NYISO explains that, generally, for

¹⁴⁷ NYISO Transmittal at 26-27 (citing BMCD Aff. ¶¶ 38-40).

¹⁴⁸ NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0).

¹⁴⁹ NYISO Transmittal at 29 (citing *N.Y. Indep. Sys. Operator, Inc.*, 156 FERC \P 61,039, at P 27 (2016); 2017-2021 DCR Order, 158 FERC \P 61,028 at PP 17 n.27, 22-25, 166). NYISO notes that, for the first time, it also developed a separate net EAS model for the energy storage technology options assessed in this ICAP Demand Curve reset. *Id.* at 30.

¹⁵⁰ NYISO Transmittal at 30 (citing NYISO Consultant Final Report at 77-83, 90-99; Analysis Group Aff. ¶¶ 42-52; NYISO Staff Final Recommendations at 31-33, 36-38).

each hour of the historical period, the model determines whether each peaking facility should be committed and dispatched to produce energy or provide operating reserves based on a consideration of historical energy and reserve prices (both adjusted to account for the prescribed level of excess conditions), variable operating conditions, and the operational characteristics of the peaking facility. NYISO states that the net EAS model considers both day-ahead and real-time commitment and dispatch opportunities, while respecting the physical operating characteristics of the peaking facility.¹⁵¹ NYISO adds that the net EAS model accounts for any operating restrictions or emissions limitations imposed on the peaking facility to comply with applicable environmental requirements.¹⁵² NYISO states that the net EAS revenues determined by the model are increased by an adder to reflect expected revenues for ancillary services not accounted for in the model. Finally, NYISO asserts that the net EAS model includes an assumed cost for a peaking facility to provide reserves.¹⁵³

1. <u>Natural Gas Hubs</u>

99. The Services Tariff provides that the "applicable fuel cost will be based on the applicable daily spot price for [the relevant load zone] published in the specified data source determined as part of" the ICAP Demand Curve reset process.¹⁵⁴ NYISO contends that, for natural gas prices, this includes both the data source from which the applicable historical prices are determined, as well as the appropriate natural gas hub for each peaking facility location.¹⁵⁵

100. NYISO asserts that the selection of the appropriate gas hub for each location requires careful consideration because, for nearly all locations, there are multiple <u>available options</u>. NYISO explains that, consistent with the 2017-2021 DCR, the criteria

¹⁵¹ *Id.* at 30. NYISO states that this includes the ability of the peaking facility to buy out of a previously determined day-ahead commitment in real time if economically advantageous, produce energy, or provide operating reserves in real time in the absence of a prior day-ahead commitment. NYISO adds that the net EAS model also considers whether it is less expensive for a peaking facility with dual fuel capability to operate using natural gas or ultra-low sulfur diesel.

 152 Id. at 31 (citing NYISO Consultant Final Report at 79-81; Analysis Group Aff. \P 50).

 153 Id. at 32-33 (citing NYISO, Services Tariff, § 5.14.1.2.2.2; NYISO Staff Final Recommendations at 37-38; NYISO Consultant Final Report at 80; Analysis Group Aff. \P 46).

¹⁵⁴ NYISO, Services Tariff, § 5.14.1.2.2.2 (30.0.0).

¹⁵⁵ NYISO Transmittal at 34.

it used to determine the appropriate natural gas pricing hub for each location were: (1) the correlation of gas hub prices with locational-based marginal prices for the relevant location and the extent to which the natural gas hub prices reflect New York electricity market dynamics; (2) the liquidity and depth of trading activity at the gas hub; (3) the geographic proximity of the gas hub to the location at issue; and (4) precedent for the gas hub being used in prior ICAP Demand Curve resets and other NYISO studies and evaluations.¹⁵⁶

101. NYISO states that the use of multiple considerations facilitates the identification of a reasonable and representative gas hub and contends that strict reliance on a single factor is not appropriate. NYISO adds that the selection of an appropriate gas hub for each location does not presume any particular gas purchasing strategy by each peaking facility. Rather, NYISO explains, the analysis seeks to identify appropriate natural gas prices that are designed to produce reasonable estimates of the potential energy market revenue earnings for each peaking facility.¹⁵⁷

102. Based on the multi-factor assessment described above, NYISO proposes a combination of two different gas hubs for Zone C. Specifically, NYISO proposes use of the TGP Zone 4 (200 leg) hub outside the winter period (April – November) and the Niagara hub during the winter period (December – March) when availability constraints are most likely to limit accessibility to prices consistent with the TGP Zone 4 (200 leg) hub. NYISO states that this proposal recognizes historically observed availability constraints during the winter period that may adversely affect the use of a single hub throughout the year. NYISO argues that absent the use of an alternative pricing hub during the winter, there is potential for the net EAS model to overestimate the potential revenues of a peaking facility in Zone C during the winter period.¹⁵⁸

103. NYISO states that certain stakeholders object to the use of the Niagara hub in Zone C during the winter period. Specifically, NYISO explains stakeholders raise concerns regarding: (1) the opportunity afforded to adequately consider the Niagara hub during the ICAP Demand Curve reset process, limiting stakeholders' ability to fully consider the use of the Niagara hub; and (2) the liquidity of the Niagara hub. NYISO attempts to rebut both arguments. First, NYISO explains that there were several instances throughout the stakeholder process when stakeholders were made aware that NYISO continued to consider the Niagara hub for Zone C, despite the fact that the

¹⁵⁷ Id. at 35.

¹⁵⁸ *Id.* at 35-36 (citing NYISO Staff Final Recommendations at 34-35 & app. A at 16-19; Smith Aff. ¶¶ 11-14; MMU Aff. ¶¶ 14-15, 10-23).

¹⁵⁶ *Id.* at 34-35 (citing NYISO Staff Final Recommendations at 33-36 & app. A at 14-19, 20-23).

MMU's recommendation occurred at the end of the stakeholder process. NYISO also points out that its final recommendation, presented to stakeholders on September 22, 2020, expressly noted the change in natural gas pricing and afforded stakeholders the opportunity to provide feedback.¹⁵⁹

104. In response to stakeholder concerns regarding liquidity, NYISO states that it conducted a supplemental analysis regarding the relative level of trading at the Niagara hub, as well as the availability of gas price data for the Niagara hub during the winter period. NYISO explains that its supplemental analysis found that the trading volumes at the Niagara hub during the winter months for the historical three-year data period used to determine the 2021/2022 Capability Year ICAP Demand Curve (September 1, 2017 – August 31, 2020) was comparable and, in certain instances, greater than trading at other gas hubs in Zone C or other locations. Moreover, NYISO adds, NYISO's review of gas price data confirmed that there was a published gas price for the Niagara hub on all days in the winter period on which gas prices were published for the three-year period used to determine the 2021/2022 Capability Year ICAP Demand Curves.¹⁶⁰

105. For Zone G, NYISO proposes to alter the approach used for the 2017-2021 DCR by separately evaluating gas hubs for Zone G (Dutchess County) and Zone G (Rockland County). NYISO adds that the use of separate hubs is consistent with the approach used in the 2014-2017 DCR, which also used the TETCO M3 hub for Zone G (Rockland County).¹⁶¹ NYISO states that its proposal to identify separate hubs for each of the locations evaluated in Zone G better represents the gas pricing dynamics and pipeline system configuration in the lower Hudson Valley. NYISO specifies that this process recognizes that Zone G (Rockland County) has ready access to natural gas pipelines connected to nearby shale gas producing regions that exhibit different market pricing from Zone G (Dutchess County). Understanding this, NYISO proposes the TETCO M3 hub for use in Zone G (Rockland County) and the Iroquois Zone 2 hub for use in Zone G (Dutchess County).¹⁶²

106. NYISO states that certain stakeholders contended that the TETCO M3 hub is not an appropriate pricing representation for Zone G (Rockland County) due to pipeline constraints and the potential for limited availability of interruptible service to <u>accommodate deliveries from the TETCO M3 hub into Rockland County</u>. NYISO states

¹⁵⁹ *Id.* at 37-38.

¹⁶⁰ *Id.* at 38-39 (citing Smith Aff. ¶ 14).

¹⁶¹ *Id.* at 41 (citing 2017-2021 DCR Filing at 29 n.126; NYISO Staff Final Recommendations at 35; NYISO Consultant Final Report at 95; Analysis Group Aff. ¶ 62).

¹⁶² Id.

that, in response to these concerns, the MMU conducted a supplemental analysis to evaluate the historical availability of capacity on the Algonquin pipeline to facilitate deliveries from the TETCO M3 into Rockland County. NYISO explains that the MMU's analysis identified that: (1) sufficient transportation capacity is generally available throughout the year to accommodate deliveries on the Algonquin pipeline into Rockland County; (2) the constraints most likely to arise on the Algonquin pipeline occur downstream of the portions of the pipeline that would serve to deliver gas into Rockland County; and (3) use of an alternative gas hub would not provide a reasonable estimate of the likely expected revenues of a peaking facility in Zone G (Rockland County).¹⁶³

107. NYISO states that the same stakeholders contend that this supplemental analysis does not appropriately account for actual availability of interruptible service on the Algonquin pipeline to accommodate deliveries into Rockland County. In response to these arguments, NYISO explains that interruptible service is not the only fuel supply arrangement available to a peaking facility seeking to secure natural gas. NYISO adds that the MMU's assessment more appropriately accounts for the potential availability of capability to accommodate gas deliveries to a peaking facility, rather than focusing on a single gas supply procurement option.¹⁶⁴ NYISO states that, as demonstrated by its analysis, use of the TETCO M3 hub as the representative gas pricing for Zone G (Rockland County) is appropriate and reasonable.

a. <u>Comments and Protests</u>

108. NYTOs agree that NYISO's proposal to use TETCO M3 as the gas hub in Rockland County and Iroquois Zone 2 hub in Dutchess County reasonably represents natural gas prices in these locations.¹⁶⁵

109. CPV, GenOn, and IPPNY assert that NYISO's proposal to use the TETCO M3 hub for Zone G (Rockland County) is not just and reasonable. Primarily, GenOn, CPV, and IPPNY argue that the MMU's analysis on transportation service availability through the Algonquin pipeline is deficient. CPV argues that the MMU overstates service availability because the MMU did not consider all four gas scheduling cycles: evening, intraday 1, intraday 2, and intraday 3. GenOn and IPPNY argue that the MMU's analysis is flawed because it fails to incorporate Algonquin pipeline interruptible transportation

¹⁶³ *Id.* at 42 (citing NYISO Staff Final Recommendations at 35 & app. A at 20-23; MMU Aff. ¶¶ 26-39). The MMU explains that the Algonquin pipeline AIT-1 interruptible tariff rate of \$0.2867/MMBtu is comparable to the \$0.27/MMBtu transport cost proposed by NYISO. *Id.*

¹⁶⁴ *Id.* at 43 (citing MMU Aff. ¶¶ 26-39).

¹⁶⁵ NYTOs Protest at 41-42.

flag data (IT flag data), which would demonstrate there will be no availability of interruptible service.¹⁶⁶

110. CPV explains that firm transportation customers and no-notice shippers schedule transportation in each of the four scheduling cycles and emphasizes that such nominations take priority over those of interruptible customers. Therefore, CPV argues, the MMU's analysis should include the final nomination cycle, capacity held by no-notice shippers, and the pipelines' interruptible flow indicators in order to reflect capacity expected to be available at all times. CPV argues that it is speculative to assume that firm transportation is available in Rockland County because the Algonquin and Millennium pipelines are fully subscribed, and reliance on interruptible transportation for fuel supply is unlikely to be acceptable to investors.

111. CPV, GenOn, and IPPNY argue that interruptible transportation was largely unavailable over the peak summer and winter operating periods.¹⁶⁷ For example, GenOn states that its expert reviewed daily Algonquin pipeline data and concluded interruptible transportation service data during winter 2019/2020 was only available for four days in January and February.¹⁶⁸ CPV also claims that, since its natural gas facility began operating in Zone G in fall 2018,¹⁶⁹ no interruptible transportation service was available during either the summer or winter peak operating periods in 2019 and 2020. CPV elaborates that, in 2018, interruptible transportation service was available only six days in the peak winter months of 2018/2019.¹⁷⁰ Further, GenOn contends that the MMU affidavit presented to NYISO during the stakeholder process shows that interruptible service during the peak months of winter 2019/2020 was generally unavailable. GenOn states that the MMU focuses on pipeline availability in its assessment, but GenOn's expert demonstrates that relying on the annual average for a peaking facility, versus a baseload facility, misaligns the facility's expected operations and actual availability.¹⁷¹

¹⁶⁶ IPPNY Comments at 26; CPV Protest at 14-15 (citing MMU Aff. ¶ 20). GenOn states that IT flag data is published to account for no-notice service obligations and other physical constraints on the Algonquin pipeline that would cause interruptible transportation service to be cut. GenOn Protest at 14.

¹⁶⁷ CPV Protest at 15-16; GenOn Protest at 14-15; IPPNY Comments at 26.

¹⁶⁸ GenOn Protest at 14.

¹⁶⁹ CPV Protest at 7. CPV states that it and its affiliates own, operate, and develop electric generation facilities throughout the United States, including a CPV natural gas facility located in Orange County, New York. *Id*.

170 Id. at 16.

¹⁷¹ GenOn Protest at 14-15.

112. CPV contends that even if a small pipeline segment appears unconstrained, availability would depend on transportation rights owners' willingness to sell at a belowmarket price consistent with the TETCO M3 hub rather than a potentially higher market price. CPV also asserts, contrary to the MMU's assumptions, that pipeline congestion occurs before the pipeline is 100% utilized, and the pipeline may keep capacity for variability in withdrawals and in anticipation of demands from no-notice service customers.¹⁷² GenOn states that although the MMU focuses on pipeline availability in its assessment, relying on the annual average of a peaking facility fundamentally misaligns with the facility's expected operations and obfuscates actual availability.¹⁷³

113. GenOn, CPV, and IPPNY state that NYISO failed to provide adequate analysis regarding interruptible service and secondary firm service. IPPNY states that the MMU did not quantify premiums for transportation service and GenOn argues that the adder price is significantly less than the rate for marginal firm capacity on Algonquin pipeline and the Algonquin Citygate hub price. GenOn contends that the same system dynamics that have eliminated the availability of interruptible service during peak winter operating periods also dictate that secondary service at a \$0.27/MMBtu transportation adder is not available during those periods.¹⁷⁴

114. GenOn asserts that the MMU's characterization of the upstream portion of the Algonquin pipeline system fails to account for the pipeline's obligations to shippers and basic system dynamics, and thus does not demonstrate whether transportation service is available to suppliers in the area. First, GenOn states that the delivery capacity at the Millennium Mainline Compressor Station is fully subscribed by shippers in New England and that all natural gas removed from the Algonquin pipeline in Rockland County can only be replenished at the Iroquois Zone 2 hub price. GenOn contends that critical notice information does not support the MMU's positions because there are only two small delivery points in Rockland County, both of which are served with firm transportation service that would be inadequate to meet the peaking facility's needs.¹⁷⁵

115. Therefore, according to GenOn, the Commission should: (1) direct NYISO to revise its model for the 2021-2025 DCR to establish the Iroquois Zone 2 hub for the Zone G (Rockland) peaking facility; (2) re-run the Net CONE calculation for the Zone G (Rockland) facility; (3) set the 2021-2022 G-J Locality ICAP Demand Curve; and (4) file these changes with the Commission expeditiously.¹⁷⁶ CPV and IPPNY also contend that

¹⁷² CPV Protest at 16.

¹⁷³ GenOn Protest at 15.

¹⁷⁴ Id. at 19-21; IPPNY Comments at 27.

¹⁷⁵ GenOn Protest at 16-17.

the Iroquois Zone 2 hub continues to meet NYISO's selection criteria.¹⁷⁷ CPV notes that in the 2017-2021 DCR, NYISO concluded that the Iroquois Zone 2 hub was appropriate for Zone G because its prices were better correlated with Locational Based Marginal Prices (LBMP) in Zone G and NYISO argues that this remains true today.

116. In response to protests against the use of the TETCO M3 hub for Rockland County, NYTOs state the Commission has found that deliverability is not a necessary attribute for a natural gas pricing hub selected for a zone in an ICAP Demand Curve reset.¹⁷⁸ NYTOs argue that natural gas marketers hold 50% of firm capacity available on Algonquin pipeline and 42% firm capacity available on Millennium, which provide two deliverability options for natural gas into Rockland County. NYTOs also contend that the MMU adequately explained that restrictions on interruptible transportation impact natural gas that flows east from the west side of the Hudson River, which causes significant price differences between natural gas purchased in Rockland County (west of the Hudson River) and Dutchess County (east of the Hudson River).¹⁷⁹

117. Certain stakeholders also dispute the selection of the TGP Zone 4 hub and Niagara hub for Zone C. Consumer Stakeholders argue that a peaking facility developer could procure natural gas at a lower cost than the gas hubs selected by NYISO and that NYISO's recommendation therefore increases costs to consumers.¹⁸⁰ Consumer Stakeholders also note that the MMU did not include use Niagara in its analysis, which is problematic because that analysis is meant to reflect actual natural gas costs. Further, Consumer Stakeholders argue that the Niagara hub lacks liquidity and contend that there is insufficient price publication for the Niagara hub.¹⁸¹ Consumer Stakeholders state that they fully adopt NYTOs' analysis of these issues. Consumer Stakeholders ask the Commission to modify the natural gas hub used for the Zone C peaking facility to be consistent with the recommendations of the NYISO Consultant, or alternatively, adopt the Dominion North hub as it provides the lowest cost option for consumers.¹⁸²

¹⁷⁶ Id. at 23.

¹⁷⁷ CPV Protest at 19; IPPNY Comments at 25.

 178 NYTOs Protest at 43 (citing 2017-2021 DCR Order, 158 FERC \P 61,028 at P 154).

¹⁷⁹ Id. at 44-46.

¹⁸⁰ Consumer Stakeholders Comments at 21.

¹⁸¹ Id. at 22-23.

118. NYTOs argue that the Dominion North hub should be used for gas facilities in Zone C. NYTOs observe that the MMU's recommendation to use the TGP Zone 4 hub and Niagara hub was based on historical benchmarking analysis of several natural gas pricing hub alternatives for the 2021-2025 DCR, which compared the actual operation of nine facilities from 2017-2019 to NYISO's proposed natural gas hubs and alternatives.¹⁸³ NYTOs contend that the MMU's analysis shows actual operations of 4,552 unit-days for the natural gas facilities, which matches the Dominion North or TGP Zone 4 more closely than the Niagara hub or other alternatives.¹⁸⁴ NYTOs state that, despite this, the MMU concluded that the Dominion North hub overestimates operation and net revenues over several months for a peaking facility in Zone C.

However, NYTOs argue that the Dominion North hub is shown to be equally as 119. likely to underestimate net EAS revenues. Based on the same comparison, NYTOs state that prices from other natural gas hubs, including the Niagara hub, also underestimate unit-days of operation and the net EAS revenues a peaking facility would earn in Zone C.¹⁸⁵ NYTOs contend that the analysis of error between actual and estimated unit-days demonstrates that the Niagara hub was only a better predictor of natural gas facilities' actual operation in December and January during 2017-2019, but that the Dominion North and TGP Zone 4 hubs were better predictors for the other ten months, including the winter months of February and March.¹⁸⁶ NYTOs also state that the actual unit-days natural gas facilities operated tracks most closely to the unit-days estimated under Dominion North hub prices and least closely to the unit-days estimated under Niagara hub prices. NYTOs state that it is more accurate to use the Dominion North hub yearround because the MMU's analysis shows a peaking facility would most likely pay lower natural gas prices and the Dominion North hub is the most accurate natural gas price index for the winter months December – March.¹⁸⁷

¹⁸² Id. at 24.

183 NYTOs Protest at 18.

¹⁸⁴ *Id.* at 19-21. NYTOs state that natural gas facilities would have operated 4,621 unit-days under Dominion North hub prices, 3,802 unit-days under TGP Zone 4 hub prices, and 2,833 unit-days under Niagara hub prices. *Id.*

¹⁸⁵ *Id.* at 22-24. NYTOs state that the Dominion North hub underestimates net EAS revenues for 18 out of 36 months, but overestimates for the other 18 months in the same 36-month period. *Id.*

186 Id. at 25-26.

¹⁸⁷ Id. at 26-27.

120. NYTOs acknowledge that pipeline constraints in winter months can increase transportation costs to Zone C from TGP Zone 4, but argue that it is important to recognize potential alternative natural gas supply arrangements are available to facilities in Zone C in winter months.¹⁸⁸ NYTOs state that the data NYISO uses in its transmittal to demonstrate liquidity at the Niagara hub is inconsistent with the MMU's acknowledgement that the Niagara hub lacks liquidity. NYTOs argue the difference arises from the fewer trades. In support of this, NYTOs cite NYISO's data showing that trading volumes at the Niagara hub during winter months were lower than trading volumes at the Dominion North hub from December – March for the last three years.¹⁸⁹

Finally, NYTOs argue that they were unable to meaningfully comment on 121. NYISO's proposal to use the Niagara hub as the proxy peaking facility for Zone C because the recommendation was made at the end of the ICAP Demand Curve reset stakeholder process. NYTOs state that while the MMU indicated in a February 26, 2020 memo that it was considering a variety of natural gas indices, the MMU did not mention the Niagara hub as a consideration in any of the several presentations to the ICAP Working Group from April through July 2020, nor in its August 5, 2020 comments on the NYISO Consultant's initial recommendations.¹⁹⁰ NYTOs state that the Niagara hub was not mentioned until the MMU's comments were posted on NYISO's website on August 25, 2020, one day after the stakeholder comment deadline to NYISO's draft ICAP Demand Curve recommendations. NYTOs argue that the only meaningful opportunity for comment were written comments to the Board regarding the finalized report, but the limited time to present arguments did not allow the issue to be appropriately vetted.¹⁹¹ For these reasons, NYTOs argues that the Dominion North hub should be used to estimate cost for natural gas facilities in Zone C, and thus used to set the NYCA ICAP Demand Curve.

b. <u>Answers</u>

122. In response to protests regarding the natural gas hub selection for Zone C, NYISO argues that protestors do not account for critical seasonal differences in correlation between natural gas generators' historic operation and use of the TGP Zone 4 or Dominion North hubs in winter months. NYISO argues that the MMU's analysis shows that, during stressed winter operating conditions such as the bomb cyclone and a cold

¹⁸⁸ *Id.* at 27-28. With regard to NYISO's TETCO M3 hub recommendation, NYTOs state that NYISO's proposal recognizes that various natural gas supply arrangements are relevant to NYISO's natural gas hub recommendations. *Id.*

¹⁸⁹ Id. at 29-33.
¹⁹⁰ Id. at 38.
¹⁹¹ Id. at 39-40.

snap in 2017-2018, the TGP Zone 4 hub and the Dominion North hub significantly overestimated actual operation of generators in Zone C. NYISO states that this led to inflated revenue estimates, which occurred because natural gas pipeline constraints limit availability to physically deliver gas from TGP Zone 4 to Zone C. NYISO states that the Niagara hub does not overestimate historic natural gas generator operations during critical winter periods or experience the same constraints as the TGP Zone 4 hub.¹⁹²

123. In response to protests relating to the TETCO M3 hub selection for Zone G (Rockland), NYISO argues that IT flag data does not account for how a pipeline is broadly utilized, nor does it indicate that interruptible transportation service is unavailable. NYISO states that a facility may choose not to use interruptible transportation service if lower cost gas supply alternatives are available. NYISO notes that, contrary to arguments from the protestors, the MMU considered both timely and intraday 3 nomination cycles. Further, NYISO states that the MMU used the lower of available pipeline capacity values between the two nomination cycles. NYISO argues that the MMU determined that using secondary transportation may be a more economically rational purchasing strategy than interruptible transportation service. NYISO states that, notwithstanding recent upgrades to the Algonquin pipeline, the pipeline segments downstream of Rockland County experience constraints more frequently than the pipeline segments facilitating deliveries of natural gas from the TETCO M3 hub to Rockland County.¹⁹³

124. NYISO argues that the MMU's analysis would not change if it incorporated IT flag data and firm capacity held by no-notice shippers. NYISO argues that available pipeline data do not support the argument that restrictions and availability limitations exist for the Algonquin pipeline segments that deliver natural gas from the TETCO M3 hub into Rockland County. NYISO states that contrary to protestors' assertions, the MMU's analysis does not focus on monthly data but accounts for daily pipeline capacity availability. NYISO explains that the MMU analysis determined, through the net EAS model, that pipeline capacity availability would support expected peaking facility operations 89% of all hours from September 1, 2017, through August 31, 2020. NYISO states that the Iroquois Zone 2 hub would materially understate potential revenues a peaking facility in Zone G (Rockland) would earn and would therefore artificially inflate the Net CONE for this zone.¹⁹⁴

125. NYTOs assert that NYISO made a material error in explaining its rationale for recommending the TGP Zone 4 and Niagara hubs for Zone C. Specifically, NYTOs

¹⁹⁴ *Id.* at 22-23.

¹⁹² NYISO Answer at 15-16.

¹⁹³ NYISO Answer at 19-21.

argue that NYISO incorrectly stated that NYTOs did not account for "critical seasonal differences" in their comments suggesting that NYISO should recommend the Dominion North hub for Zone C.¹⁹⁵ Rather, NYTOs argue that the overall point of their evaluation was to account for critical seasonal differences.¹⁹⁶ Specifically, NYTOs contend that their evaluation of unit-days for the generators included in the MMU's analysis demonstrates that the estimated winter month operations based on the Dominion North hub prices were more accurate than the estimates based Niagara hub prices. NYTOs add that the evaluation of the MMU's analysis shows that the Niagara hub produced better operating estimates for only two of the total 12 winter months evaluated in the three-year period covered by that analysis. NYTOs argue that the Dominion North hub produced better operating estimates for the other 10 winter months.¹⁹⁷ Given this, NYTOs contend that NYISO does not provide substantial evidence to demonstrate that price estimates based on the Niagara hub reflect prevailing conditions expected in Zone C for the 2021-2025 DCR period because the recommendation does not produce as accurate operating estimates for 10 out of the 12 winter months in the analysis.¹⁹⁸

126. CPV asserts that NYISO appears to recommend the TETCO M3 hub only to reduce the fuel cost estimate, not in recognition of the multi-factor criteria typically used to recommend a natural gas pricing hub for a Zone. CPV argues that, while NYISO contends that there are theoretically scenarios in which natural gas could be transported into Rockland County from the TETCO M3 hub, NYISO does not address how the TETCO M3 hub is the superior recommendation under the multi-factor test's liquidity and geography factors. Further, according to CPV, NYISO's recommendation of the Iroquois 2 hub over the TETCO M3 hub for the peaking facility in Zone G (Rockland) in the 2017-2021 DCR Filing proves that the TETCO M3 hub is inferior to the Iroquois 2 hub and does not meet multi-factor criteria typically used to recommend a natural gas pricing hub for a Zone.¹⁹⁹

c. <u>Commission Determination</u>

127. We find that NYISO's selection of natural gas hubs for Zone C and Zone G (Rockland County) is just and reasonable. We agree that NYISO provides justification that the natural gas hub for each Zone will result in ICAP Demand Curves set at

¹⁹⁵ NYTOs Answer at 3-4.

¹⁹⁶ Id. at 4-5.

¹⁹⁷ *Id.* at 5-6. NYTOs state that the unit-days of operation would be less than half actual unit-days of operation for the generators included in the analysis. *Id.*

¹⁹⁸ *Id.* at 6-7.

¹⁹⁹ CPV Answer at 8-9.

appropriate levels. Consistent with past practice, NYISO and the NYISO Consultant used multi-factor criteria to support their selection of natural gas hubs: market dynamics (i.e., natural gas price correlation with LBMPs for the relevant Zone), liquidity, geographic location, and precedent (i.e., how the natural gas hub has been used in other significant NYISO studies). The Commission has previously accepted the use of NYISO's multi-factor criteria to select natural gas hubs that are appropriate for each Zone.²⁰⁰

128. We are not persuaded that protestor arguments render the natural gas hub selection for Zone C or Zone G (Rockland County) inconsistent with the Services Tariff, which requires NYISO to determine the natural gas fuel cost for a peaking facility in each Zone.²⁰¹ As NYISO explains, NYISO must consider multiple options when selecting a natural gas hub. Each Zone in NYISO possesses unique characteristics that influence how the multifactor criteria may apply to that zone. As a result, the natural gas hub selection in one Zone may be more challenging to decipher as consistent with market dynamics, for example, whereas this selection in a different Zone may be more challenging to decipher as consistent with geographic proximity.

129. We agree with NYISO's judgment that the contested natural gas hubs appropriately reflect market dynamics, represent geographic proximity, and demonstrate liquidity through sufficient historic trading volume, despite protestors arguments to the contrary. For Zone C, we find that NYISO justifies its proposed combination of the TGP Zone 4 hub and the Niagara hub as the natural gas pricing hubs reflecting market dynamics and liquidity in this Zone²⁰² and therefore that NYISO's choice is just and reasonable. Zone C, in contrast to Zone G, has more natural gas hub options, and constraints in Zone C primarily affect physical availability rather than transportation costs. The MMU's analysis represents these dynamics by explaining that constraints in Zone C occur upstream from the TGP Zone 4 hub, thereby limiting physical deliverability from December through March, but also demonstrates that natural gas deliveries from the Niagara hub would be geographically accessible. Further, the MMU's analysis demonstrates that the Niagara hub represents expected operations and revenues November – March and that the TGP Zone 4 hub does not.

²⁰² NYISO Transmittal at 36-39; MMU Aff. ¶¶ 13-21.

²⁰⁰ 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 153.

²⁰¹ NYISO, Services Tariff, § 5.14.1.2.2.2 (30.0.0) (providing that "applicable fuel cost will be based on the applicable daily spot price for [the relevant load zone] published in the specified data source determined as part of" the ICAP Demand Curve reset process).

130. Certain protestors dispute NYISO's recommendation to use the Niagara hub for the winter months and argue that the TGP Zone 4 and Dominion North hubs represent better estimates of operation and related revenues for the peaking facility. Overall, protestors would prefer that NYISO use the Dominion North hub year-round, while acknowledging that the Dominion North hub both over- and underestimates the peaking facility's EAS revenues. Thus, protestors' preference supports NYISO's recommendation of a natural gas hub that balances periods when the peaking facility's operations and EAS revenues are underestimated against periods when operations and EAS are overestimated, but protestors prefer the Dominion North hub to achieve this balance. While protestors propose a variety of alternative natural gas hubs that may be just and reasonable, the Commission need only find NYISO's proposal to be just and reasonable, and not that it is the only or even the most just and reasonable proposal.²⁰³ We agree with the analysis set forth by NYISO that underlies its proposal here and find that we need not consider the alternative gas hubs proposed by protestors.

131. Regarding liquidity, NYISO has demonstrated that historic trading volume data is available for the Niagara hub, as supported through S&P Global Market Intelligence (S&P) data. The data NYISO presents in its transmittal demonstrates that comparable or better trading volumes occur at the Niagara hub compared to the TGP Zone 4 and Dominion North hubs. Protestors argue that NYISO's data is insufficient as compared to other market data sources. However, they fail to provide any evidence that the data used is an inaccurate or unreliable source of market data, nor do they dispute that it is a widely used source for energy market data. Rather, protestors seem to argue for a preferred market data source. For these reasons, we find the trading volume S&P data provided by NYISO is reasonable to inform market participants on historical trading volumes.

132. In response to arguments that stakeholders were not provided a sufficient opportunity to address the natural gas hub selection for Zone C, we conclude that all parties were provided opportunity to comment on the selection, and stakeholders were on notice throughout the review process during which NYISO continued to evaluate its natural gas hub recommendation for Zone C. In fact, NYISO and the MMU addressed various stakeholder concerns regarding the natural gas hub selection for Zone C throughout the process with several supplemental analyses. Further, stakeholders were provided an opportunity to comment to the NYISO Board once the Niagara hub recommendation was finalized and had the opportunity to submit comments to the Commission in this proceeding.

²⁰³ See City of Bethany v. FERC, 727 F.2d 1131, 1136 (D.C. Cir. 1984) (describing the Commission's authority under section 205 of the FPA as "limited to an inquiry into whether the rates proposed by a utility are reasonable – and not to extend to determining whether a proposed rate schedule is more or less reasonable than alternative rate designs"); see also 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 156.

133. For Zone G (Rockland), we conclude that NYISO has sufficiently justified that the TETCO M3 hub meets the criteria of geographic proximity and market dynamics. Constraints along the Algonquin pipeline impact natural gas supply in Zone G, but the constraints impact portions of Zone G differently. We find that the MMU's analysis recognizes these dynamics because it demonstrates that the constraints along the Algonquin pipeline occur downstream from Rockland County and thus generally do not impact physical deliverability of natural gas supply into Rockland County. The MMU demonstrates that available pipeline capacity to accommodate natural gas delivery from the TETCO M3 hub to Rockland County can support 89% of the peaking facility's expected operation.²⁰⁴ Finally, the MMU and NYISO account for the pricing impacts to transport service into Rockland County that are caused by these constraints through the recommended \$0.27/MMBtu adder. We find this adder is reasonable because, as the MMU explains, it is higher than the average \$0.15/MMBtu price spread for natural gas transportation between TETCO M3 hub and Algonquin Citygates hub, and comparable to the \$0.28/MMBtu tariff rate for interruptible transportation service.²⁰⁵

134. Protestors raise numerous technical arguments related to natural gas procurement along the constrained Algonquin pipeline system. Primarily, these arguments fail to demonstrate that the TETCO M3 hub does not reasonably approximate fuel costs for Zone G (Rockland).²⁰⁶ We agree with NYISO that there are various transportation service options for generators to arrange natural gas supply, such as secondary firm transportation service, and it is unnecessary to presume a specific natural gas procurement strategy when estimating fuel costs that establish reasonable net EAS revenue estimates for an ICAP Demand Curve reset. Regardless, protestors ignore that the MMU's analysis did account for later nomination cycles through intraday three. We agree with the MMU that protestors provide no evidence that no-notice service nominations interrupt transportation service to Rockland County, nor do protestors recognize that IT flag data can show the frequency that interruptible service was utilized, not just lack of availability.²⁰⁷ We also find that it is reasonable for NYISO to consider

²⁰⁴ These transport points include the Algonquin Citygates hub and Iroquois Zone 2 hub. NYISO Transmittal at 42; BMCD Aff. ¶¶ 25-34.

²⁰⁵ The MMU explains that price spreads between the TETCO M3 and Algonquin Citygates hubs were \$0.15/MMBtu for September 2017 through August 2020. NYISO Transmittal at 43; MMU Aff. ¶¶ 27-30.

²⁰⁶ The natural gas hub selection in an ICAP Demand Curve reset allows NYISO to approximate fuel costs for the hypothetical peaking facility in a given Zone, but recognizes that the hub does not necessarily need to represent a physically or economically deliverable fuel source for a particular facility.

²⁰⁷ NYISO Transmittal at 42; MMU Aff. ¶ 33 fig. 5.

whether constraints and restrictions on the Algonquin pipeline have similar impacts to transportation service in Rockland County as compared to segments downstream from the TETCO M3 hub. Based on the foregoing, we disagree with CPV that NYISO's recognition that the 2014-2017 DCR Order approved the TETCO M3 hub for Zone G ignores CPV's argument that the TETCO M3 hub does not meet the multi-factor criteria test. We find that NYISO adequately demonstrates that natural gas availability from the TETCO M3 hub can support the majority of a peaking facility's expected operation. This is further supported by the fact that the peaking facility is a dual fuel facility that will not solely rely on natural gas supply.

135. While protestors argue that the \$0.27/MMBtu adder should be higher, we find that this adder represents an average cost among potentially higher and lower natural gas transportation costs that NYISO and the MMU considered. The MMU demonstrated that the adder is a reasonable price point by showing that it is: (1) higher than prices that will likely be available; and (2) comparable to the interruptible transportation service tariff rate. We also find that CPV's arguments and evidence suggesting that the TETCO M3 hub does not represent market dynamics is unpersuasive. Rather, we find that the MMU's analysis supports the argument that the TETCO M3 hub strikes a balance to neither under- nor overestimate costs given that bottlenecks on the Algonquin pipeline occur downstream of Rockland County. We conclude Iroquois Zone 2 hub pricing for Zone G would be unjustified, since this pricing represents downstream constraints that are less relevant to Rockland County and would imply \$7.00/kW-year less in net EAS than what a generator could receive. Importantly, the MMU demonstrates that even during the limited days in winter when constraints on the Algonquin pipeline increase TETCO M3 hub prices for Rockland County, the peaking facility's net EAS revenues based on TETCO M3 hub prices only slightly decrease by \$1.6/kW-year.²⁰⁸ For these reasons, we find that the TETCO M3 hub appropriately represents geographic proximity and market dynamics for Zone G (Rockland County).

D. <u>Levelized Fixed Charge and Financial Parameters</u>

136. As part of the ICAP Demand Curve reset, the Services Tariff requires NYISO to assess "the current localized levelized embedded cost of a peaking [facility]" for each ICAP Demand Curve.²⁰⁹ NYISO explains that this assessment requires NYISO to translate into an annualized level the up-front capital investment costs for each peaking facility, including property taxes and insurance. According to NYISO, this translation accounts for: (1) the weighted average cost of capital that NYISO assumes is required by

 $^{^{208}}$ The MMU also explains that selecting the Iroquois Zone 2 hub may underestimate net EAS revenues by \$7.00/kW, as compared to the TETCO M3 hub. *Id.* at 42-43; MMU Aff. ¶¶ 31-39.

²⁰⁹ NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0).

a developer of the peaking facility to recover its up-front investment costs, plus a reasonable return on that investment; (2) the term in years over which NYISO assumes the developer recovers its up-front investment costs (amortization period); and (3) the applicable tax rates. NYISO states that it derives the weighted average cost of capital from a series of financial parameters related to the development of the peaking facility, including the required return on equity (ROE), cost of debt, and capital structure (as reflected in the debt-to-equity ratio). NYISO contends that its proposed parameters are designed to reflect the particular financial risks faced by a developer given the nature of the peaking facility and the New York State electric market.²¹⁰

1. <u>Return on Equity and Cost of Debt</u>

137. NYISO proposes an ROE of 13%.²¹¹ NYISO states that the ROE was determined based on consideration of various data sources reflecting different potential financing structures for developing a peaking facility. NYISO explains that the NYISO Consultant utilized various data sources to identify a range of potential ROE values, including ROE values ranging up to 10.5% for publicly traded independent power producers based on the capital asset pricing model. NYISO explains that, in order to account for any shortcomings associated with this approach, the NYISO Consultant expanded its analysis to consider data and information regarding potential ROE values required to support a stand-alone project finance approach to developing a new peaking facility in New York State, which ranged from approximately 12% to 20%. Finally, NYISO states that the NYISO Consultant also considered ROE values that ranged from 12.8% to 13.8%, which were recently approved by the Commission as part of similar capacity market valuations in neighboring markets.²¹²

138. NYISO notes that certain stakeholders advocate for the use of a higher ROE because they believe that the recommended ROE does not appropriately account for the risks of merchant generation in New York State. NYISO responds that the recommended 13% ROE provides a reasonable and appropriate balancing of the range of ROE values observed by the NYISO Consultant in its analysis.²¹³

²¹¹ *Id.* at 48 (citing NYISO Staff Final Recommendations at 26; NYISO Consultant Final Report at 67-69; Analysis Group Aff. ¶¶ 70-73, 76-77).

 212 Id. at 48-49 (citing NYISO Consultant Final Report at 67-68; Analysis Group Aff. \P 76).

²¹³ Id. at 49.

²¹⁰ NYISO Transmittal at 47-48 (citing NYISO Staff Final Recommendations at 20-29; NYISO Consultants Final Report at 60-74; Analysis Group Aff. ¶¶ 65-67).

139. NYISO proposes a 6.7% cost of debt. NYISO states that the NYISO Consultants' recommendation to use a value slightly above current market values for generic B-rated corporate debt includes the consideration of many factors. NYISO states that these considerations include: (1) the risk profile for developing a new peaking facility in New York State; (2) potential financing approaches including the non-recourse nature of stand-alone project finance debt; (3) and an implicit consideration of costs that may be incurred to secure financing for a new peaking facility in New York State, such as execution of hedges.²¹⁴ NYISO states that certain stakeholders advocate for a higher cost of debt and contend that 6.7% does not adequately account for the cost of hedging instruments that a developer would likely be required to execute to obtain financing. NYISO adds that other stakeholders recommend use of a lower cost of debt based on consideration of recent market data.²¹⁵

140. In response to these concerns, NYISO explains that the NYISO Consultant based its recommended value on market data regarding the debt cost for generic B-rated corporate debt, as well as consideration of debt costs incurred by independent power producers over the past three years. NYISO notes that the COVID-19 pandemic has created significant volatility in the financial markets that has resulted in significant changes in the cost of debt over the past year. For example, as NYISO explains, the debt costs for B-rated corporate debt dropped from 12% to 6.6% between March and July 2020. According to NYISO, this caused the NYISO Consultant to realize that the debt costs could further decline as the financial markets continue to adjust to the ongoing pandemic. NYISO states that the NYISO Consultant also considered available information regarding debt costs incurred by certain publicly traded independent power producers, which identified debt costs ranging from 4% to 8%.²¹⁶

a. <u>Comments and Protests</u>

141. IPPNY argues that the Commission should direct NYISO to increase the proposed ROE. IPPNY argues that NYISO's proposed ROE relies too heavily on the average estimated ROE of publicly traded independent power producers, which primarily invest in new projects utilizing balance sheet financing whereas, according to IPPNY, all new gas-fired power generation projects in New York have been financed utilizing non-recourse financing.²¹⁷ In addition, IPPNY contends that NYISO's proposed ROE

 214 Id. at 50 (citing NYISO Staff Final Recommendations; NYISO Consultant Final Report at 65-67; Analysis Group Aff. ¶ 75).

²¹⁵ Id. at 49-50.

²¹⁶ Id. (citing NYISO Consultant Final Report at 65-67; Analysis Group Aff. ¶¶ 74-75).

²¹⁷ IPPNY Comments at 14-17.

underweights the level of risk faced by developers of fossil generation in New York. IPPNY contends that comparisons to ISO New England Inc. and PJM Interconnection, L.L.C. are inappropriate because the multi-state nature of those regional transmission organizations allows developers to locate supply within jurisdictions that present the least regulatory risk, which a developer in NYISO cannot do.²¹⁸

142. Consumer Stakeholders explain that the nationwide average awarded ROE for predominately regulated electric utilities is approximately 9.5% as reported by Regulatory Research Associates for 2020. Consumer Stakeholders argue that the recommended 13.0% ROE is excessive and that a spread above the average authorized ROE for regulated electric utilities of 100 basis points (10.5%) would adequately compensate equity investors for the additional risks faced by a power producer. Consumer Stakeholders request that the Commission lower the ROE to 10.5%.²¹⁹

143. Consumer Stakeholders state that NYISO's 6.7% cost of debt recommendation reflects rates for "B-rated debt, even though only 28% of issuances were at the Bloomberg Composite Rate of "B" or lower. Therefore, Consumer Stakeholders argue that it is appropriate to consider "BB" generic debt rates in determining the overall debt costs, especially since each of the four companies to which the Consultants cite issued debt at ratings above "B" in 2019. Consumer Stakeholders reviewed the three-year average spread between "BBB+" utility rated debt (4.13%) and "BB" corporate debt (4.75%), which was approximately 60 basis points. Consumer Stakeholders recognize not all independent power producers will be rated "BB" and some will be rated lower. Therefore, Consumer Stakeholders recommend that adding 1.5x the spread between "BBB+" utility rated debt of 90 basis points to the average "BB" yield of 4.75%, which results in a cost of debt rate of 5.65%. Consumer Stakeholders urge the Commission to adopt a lower cost of debt consistent with a rate of 5.65%, as a 6.7% debt cost rate is excessive.²²⁰

144. As noted earlier, CPV argues that contrary to NYISO's assumptions, hedge arrangements and the cost of debt assessed by a lender are separate financial arrangements that are intended to ensure that revenue streams will be sufficient to cover debt payments.²²¹ CPV states that at no point during the stakeholder process did NYISO consider a hedge cost as a rationale for increasing the debt cost. Rather, CPV contends,

²¹⁸ Id. at 16.

²¹⁹ Consumer Stakeholders Protest at 25.

²²⁰ Id.

²²¹ CPV Protest at 24-25.

NYISO based the debt cost entirely on the financial metrics of publicly traded companies that do balance sheet financing, and these same large companies may often be offsetting a load position (a form of hedge). CPV argues that a corporate B debt cost cannot reasonably reflect the risk that is faced by a merchant facility and for which revenue risk is the key driver for the lender's requirement for hedge arrangements. CPV states that, even though guaranteed capacity market revenue might reduce financing risk, that has not been the case for CPV in connection with projects located in PJM Interconnection, L.LC., which benefits from a three-year-forward capacity market. CPV contends that there is no mechanism to demonstrate any revenue certainty in New York State, given the six month forward market and an extremely volatile spot market.²²² For these reasons, IPPNY and CPV contend that NYISO should reflect the costs of hedging mechanisms typically required to finance new merchant natural gas facilities in the capital costs of the proxy peaking facility.²²³

145. CPV states that, according to NYISO, costs to arrange financing are included in the cost of construction financing costs. However, CPV argues that this claim is at odds with NYISO's assertion that the construction financing rate reflects the 55/45 debt-to-equity ratio and 6.7% cost of debt assumed for the project as a whole. Moreover, CPV argues, the claim is at odds with the 2017-2021 DCR, which established financing fees of \$5.8 million separately from construction financing costs.²²⁴

b. <u>Answers</u>

146. NYISO states that the NYISO Consultant derived the proposed ROE following the review of data sources addressing various project development finance approaches and the returns required by developers of merchant power plants. NYISO states that the proposed ROE and cost of debt values fall within a range of reasonable assumptions identified by the NYISO Consultant. NYISO states that its proposed value is within a range of identified ROE values, including ROE values up to 10.5% for independent power producers and ROE values ranging from 12% to 20% for stand-alone project financing. NYISO states that the 13% ROE value reasonably supports the development of a merchant peaking facility in New York when considered with the remaining financial parameters.²²⁵ Thus, NYISO contends, its proposed ROE and cost of debt values fall within the range of reasonable assumptions identified by the NYISO <u>Consultant.²²⁶ NYISO asse</u>rts that the NYISO Consultant fully evaluated relevant data

²²² Id. at 26.

²²³ CPV Protest at 7, 24-26; IPPNY Protest at 17-19.

²²⁴ CPV Protest at 22-23.

²²⁵ NYISO Answer at 25-26.

and information in developing the recommended values and fully supported the values based on the assessment performed.²²⁷

c. <u>Commission Determination</u>

147. We find that NYISO's proposed ROE of 13% for the proxy facility is just and reasonable. NYISO's proposal is based on ROEs for publicly traded independent power producing companies, independent estimates of ROEs as an element of the cost of new facility generation, and estimates of ROEs for stand-alone project finance approaches. We disagree with IPPNY that NYISO has failed to account for the unique financing requirements or financial risks facing project developers in New York State. We also disagree with Consumer Stakeholders that the ROE is excessive. On the contrary, we find that NYISO has provided substantial evidence to support its proposed 13% ROE and, as NYISO points out, this percentage falls within a range of reasonable ROE values²²⁸ and is consistent with ROE values recently approved by the Commission. We agree with NYISO that the proposed ROE balances a range of ROEs, and thus appropriately reflects the risks of developing a fossil fueled generation facility in New York State among independent power producers and for other financing structures that exclude regulated assets, such as stand-alone project financing.

148. We find NYISO's proposed 6.7% cost of debt to be just and reasonable. NYISO's cost of debt estimate reflects the range of values for both B-rated corporate debt and independent power producers. NYISO explains that, in the absence of an explicit cost assumption for a financial hedge to secure debt financing, hedging costs are reflected in the proposed 6.7% cost of debt and assumed 55/45 debt-to-equity ratio of an independent power producer.²²⁹ In adopting these values, NYISO opted for more conservative estimates that to some degree compensate for the lack of an explicit assumption about financial hedges. We find that this adequately addresses protestors' arguments that NYISO's proposed cost of debt is unjust and unreasonable because it does not reflect the risk to development such as financial hedging arrangements. In addition, NYISO explains its estimate represents a higher risk project because it is based on B-rated corporate debt range. The Commission has held that a recommended cost of debt at the high end of observed values is "consistent with the greater risk powered by a single peaking facility, in comparison to an independent power producing company."²³⁰ We continue to find this

²²⁶ Id. at 26.

²²⁷ *Id.* at 26-27.

²²⁸ 2014-2017 DCR Order, 146 FERC ¶ 61,043 at P 118.

²²⁹ NYISO Transmittal, Analysis Group Aff. ¶ 75.

is an appropriate approach to determine the cost of debt estimate in NYISO. For these reasons, we conclude that NYISO has justified that the recommended cost of debt falls within a range of reasonable values.

2. <u>Amortization Period</u>

149. NYISO proposes to adopt a 17-year amortization period. NYISO states that a primary consideration for using a 17-year amortization period is New York State's recent enactment of the CLCPA, which requires electricity demand in the State to be served by 100% zero-emission resources by January 1, 2040.²³¹ NYISO explains that the proposed 17-year amortization period represents the average period of years between the beginning of each Capability Year covered by the 2021-2025 DCR and the CLCPA's January 1, 2040 compliance deadline.²³²

150. NYISO states that certain stakeholders recommend a 15-year amortization period, while other stakeholders recommend retaining the 20-year amortization period adopted in the 2017-2021 DCR. NYISO explains that stakeholders that recommend a 15-year amortization period argue that timeframe will better reflect the fact that new generation projects currently under construction in New York State would be unlikely to enter into service until the later portion of the 2021-2025 reset period. NYISO also explains that stakeholders that recommend a 20-year amortization period contend that there is potential for fossil fuel facilities constructed in the 2021-2025 period to undertake future retrofitting or other modifications to convert to alternative zero-emission fuels or otherwise operate on a zero-emission basis in compliance with the CLCPA.²³³

151. In response to these arguments, NYISO states that it must consider the current state of the CLCPA and the regulatory constructs developed to implement its requirements. NYISO points out that in previous ICAP Demand Curve reset proceedings, the Commission required NYISO to take into account laws and regulations as currently effective and avoid speculation as to potential future changes in such laws and regulations.²³⁴ NYISO explains that, at this time, New York State has not implemented rules or regulations to specifically define the resource types, fuels, or

²³⁰ 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 180.

²³¹ CLCPA, N.Y. Statutes, Chapter 106 of the laws of 2019 (Jul. 18, 2019).

²³² NYISO Transmittal at 51 (citing NYISO Staff Final Recommendations at 26-28; NYISO Consultant Final Report at 62, 65-67; Analysis Group Aff. ¶ 69, 75).

²³³ Id.

²³⁴ *Id.* at 52 (citing 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 61; 2014-2017 DCR Order, 146 FERC ¶ 61,043 at P 74).

retrofitting options eligible for compliance with the 2040 zero-emission requirement. For this reason, NYISO states that there is currently no basis on which to assume that a fossil fuel facility will be able to retrofit or implement fuel conversion measures in order to achieve compliance with the CLCPA by 2040. Therefore, NYISO concludes that assuming such conversion measures, as suggested by those stakeholders in favor of a 20-year amortization period suggest, would require NYISO to impermissibly speculate on what may be defined as compliant with the requirements of the CLCPA. NYISO restates that the peaking facility used in establishing the ICAP Demand Curves is a hypothetical resource and that the ICAP Demand Curve reset process implicitly requires that the resource be in-service as of May 1, 2021, in order to establish the ICAP Demand Curves for the 2021/2022 Capability Year. Based on these considerations, NYISO contends that a 17-year amortization period for peaking facilities is appropriate and reasonable for the 2021-2025 DCR.²³⁵

a. <u>Comments and Protests</u>

152. IPPNY argues that the Commission should direct NYISO to reduce the amortization period in all capacity zones from 17 years to 15 years. IPPNY argues that NYISO's proposal to adjust the amortization period from 20 to 17 years is correct in principle but does not go far enough. According to IPPNY, the proposed H class turbine will not be able to operate beyond 2040 due to the CLCPA's requirement that New York's electric power sector must be zero-emitting by 2040.²³⁶ IPPNY refutes arguments that the peaking facility could retrofit and operate beyond 2040 as speculative and without evidence.²³⁷

153. However, IPPNY argues that NYISO's proposed 17-year amortization period is unreasonable, and points to NYISO's current interconnection queue to demonstrate that 17 years is untenable. According to IPPNY, the fossil-fuel facilities that are currently in NYISO's interconnection queue have an average 16-year operating life due to the CLCPA. IPPNY emphasizes that even this 16-year life is unlikely given the history of delays in NYISO's Class Year study process. IPPNY also points out that there are no facilities similar to the peaking facility currently under construction.²³⁸ If a developer entered a new project into a future Class Year process in response to new reference prices, IPPNY argues that the facility would not commence commercial operation until no earlier than 2023 and very likely closer to 2025. IPPNY argues that a 15-year amortization period is more reasonable because it considers probable construction

²³⁵ Id.

²³⁶ IPPNY Comments at 9.

²³⁷ Id. at 12-14.

²³⁸ Id. at 10-11.

timelines based on projects that could actually be developed during the 2021-2025 DCR period and takes into account risk to in-service dates.²³⁹

154. NYTOs agree that NYISO's recommended 17-year amortization period reflects conditions expected during the four-year ICAP Demand Curve reset period, and that 17 years is the average period between the 2021-2022 Capability Year and the January 1, 2040 zero-emission deadline under the CLCPA. NYTOs state that IPPNY's suggested 15-year amortization period assumes conditions that may prevail at the end of the 2021-2025 DCR period. NYTOs state that the amortization period should instead reflect conditions throughout the 2021-2025 DCR period.²⁴⁰

155. Other commenters oppose NYISO's decision to shorten the amortization period from 20 years to 17 years and argue that NYISO should revert to the 2014-2017 DCR's 20-year amortization period. The MMU points out that previous ICAP Demand Curve resets used a 20-year amortization period and argues that a 17-year amortization period would result in "excessively high demand curves" and increase Net CONE between 4.8% and 10.2% depending on the Zone.²⁴¹ The MMU disagrees with NYISO's reliance on the NYISO Consultant's explanation that this would avoid "speculating" on how the CLCPA will affect peaking facility revenues from 2039 onwards. According to the MMU, this fails to satisfactorily explain why NYISO believes the proxy peaking facility would be compelled to retire or generate no revenue after 17 years, which the MMU claims is "highly speculative."²⁴²

156. On the contrary, the MMU argues that it is "extremely unlikely" that a thermal generator like the peaking facility in question would cease to earn market revenues in 2040. In support of this assertion, the MMU argues that future ICAP Demand Curve resets will appropriately reflect the impact of the CLCPA after the New York Commission issues regulations and guidance; that fossil fuel generators would benefit from higher prices leading up to the year 2040 even if they were required to retire afterwards; and that implementation of the CLCPA could, in fact, increase revenues for the peaking facility as a consequence of meeting the CLCPA's economy-wide emissions targets.²⁴³ The MMU concludes that the 17-year amortization period does not reflect a reasonably expected value based on the best available information today, that future ICAP Demand Curve resets will be able to better consider the CLCPA's effects, and that

²³⁹ *Id.* at 11-12.

²⁴⁰ NYTOs Protest at 47-48.

²⁴¹ MMU Comments at 2-4.

²⁴² Id. at 3.

²⁴³ Id. at 5-13.

consequently the Commission should reject the NYISO's proposal and direct it to retain the 20-year amortization period approved with previous resets.²⁴⁴

157. Similarly, Consumer Stakeholders argue that the NYISO Consultant acknowledges that despite the CLCPA, newly constructed fossil-fuel facilities would not necessarily need to retire in 2039, and instead could implement facility modifications to continue operations.²⁴⁵ Notwithstanding such acknowledgement, however, Consumer Stakeholders argue there has been no assessment of the technology options that would obviate the need for a reduction in the amortization period, such as flexible fuel or fully hydrogen combustion turbines. Furthermore, Consumer Stakeholders argue that NYISO's approach to reducing the amortization period is unsustainable. In the span of two ICAP Demand Curve reset proceedings, this method would result in the amortization period dropping below 10 years, leading to dramatic increases in cost for these facilities under evaluation, and to consumers.²⁴⁶ Consumer Stakeholders request that the Commission reject NYISO's proposal to decrease the amortization period from 20 to 17 years due to the failure to perform a thorough analysis and take into consideration that there will be fuel switching in the future and not all existing dispatch sources will retire.²⁴⁷

b. <u>Answers</u>

158. NYISO states that the proposed amortization period reasonably represents the period a new fossil-fuel fired peaking facility can operate absent retrofitting or other modifications to operate in compliance with the CLCPA's zero-emission requirement. NYISO states that determining the amortization period in this manner is appropriate because the ICAP Demand Curve reset implicitly assumes that the peaking facilities underlying each ICAP Demand Curve are initially in service as of May 1, 2021. NYISO explains that its Services Tariff does not permit NYISO to recalculate the applicable localized levelized capital cost utilizing different amortization periods over the course of each reset. For this reason, NYISO contends that use of the average period of operation prior to 2040 for the proposed peaking facilities over the course of the 2021-2025 reset period reasonably accounts for the requirements of the Services Tariff.²⁴⁸

²⁴⁴ Id. at 14.

²⁴⁵ Consumer Stakeholders Comments at 18-19.

²⁴⁶ Id. at 21.

²⁴⁷ Id. at 18-19.

²⁴⁸ NYISO Answer at 27-28.

159. NYISO adds that its proposed amortization period appropriately accounts for the current state of regulations and programs to implement the CLCPA's zero-emission requirement. NYISO contends that revisions to the current regulations and/or programs are necessary to define potential pathways for fossil-fuel fired generation to pursue retrofits or other modifications to facilitate operation as a zero-emission resource.²⁴⁹ NYISO states that, absent this information, it is unable to estimate the potential capital costs related to fuel conversion or identify with any reasonable certainty the variable operating costs associated with operating as a zero-emission resource. NYISO states that the quadrennial nature of the ICAP Demand Curve reset provides the appropriate means for assessing the implications of changes to existing laws and regulations over time.²⁵⁰

IPPNY argues that the Commission should reject the MMU's and Consumer 160. Stakeholders' arguments and renews its request that the Commission direct NYISO to adopt a 15-year amortization period. IPPNY rebuts as speculative the MMU's argument that NYISO's assumption that fossil-fuel facilities must retire by 2040 and Consumer Stakeholders' argument that a fossil-fueled facility will be able to operate beyond 2039 by retrofitting and using zero-emitting fuels.²⁵¹ IPPNY contends that it is too uncertain for potential developers to reasonably estimate whether: (1) a reliability need will exist beyond 2039 that will require the continued operation of their fossil-fueled peaking facilities constructed over the next four years; (2) whether compliant technologies that would allow economic operation beyond 2039 under unknown future market conditions will exist; and (3) if so, whether future ICAP Demand Curve resets will provide enough additional revenues for such technologies to effectively retrofit the peaking facility technology proposed in this proceeding. IPPNY reiterates that making this kind of speculative call would contradict the Commission's prior mandates regarding allowable considerations during each ICAP Demand Curve reset.²⁵²

c. <u>Commission Determination</u>

161. We reject NYISO's proposed 17-year amortization period. As discussed below, NYISO has failed to demonstrate that this proposal is consistent with its Services Tariff requirement to assess the current localized levelized embedded cost of a peaking facility.²⁵³ We believe that NYISO's basis for proposing the use of a 17-year amortization period is

²⁴⁹ *Id.* at 28.

²⁵⁰ Id. at 28-29.

²⁵¹ IPPNY Answer at 2, 5.

²⁵² Id. at 5 (citing NYISO Transmittal at 52).

²⁵³ NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0).

speculative and may result in unnecessarily high Net CONE estimates, which will impact the ICAP Demand Curves. As the Commission has previously held, the ICAP Demand Curve reset process must take into account currently effective laws and regulations and avoid speculating about laws and regulations in the future.²⁵⁴ As the MMU notes, NYISO's proposed 17-year amortization period fails to consider that the CLCPA does not require that power generators retire in order to satisfy the 2040 zero-emission requirement. Further, NYISO's proposal does not recognize that the CLCPA requirements may be modified, as necessary, to allow fossil-fueled resources to remain in service beyond 2040 as a means of ensuring system reliability.²⁵⁵ As the CLCPA does not yet contain finalized compliance criteria for its zero-emission requirements, we find that there is insufficient support in the record here to justify reducing the amortization period to 17 years premised on the speculative assumption that all fossil-fueled resources will cease operation in 2040. In finding that NYISO has not shown the proposed 17-year amortization period to be consistent with its Services Tariff requirements, we direct NYISO to submit a compliance filing reverting to the previously approved 20-year amortization period.

162. We are not persuaded by IPPNY's arguments that a 15-year amortization period should be used instead. IPPNY's arguments in favor of a 15-year amortization period are based on existing projects in NYISO's current interconnection queue and suggestions that the amortization period should only reflect commercial operation for the 2024-2025 Capability Year. IPPNY's proposal ignores that a peaking facility—as a hypothetical facility—could achieve commercial operation in any of the four Capability Years during the 2021-2025 DCR period. Further, IPPNY's argument also relies on speculative assumptions about whether and when existing projects in the queue would be built.

The Commission orders:

(A) NYISO's revisions to section 5.14.1.2 of NYISO's Services Tariff are hereby accepted, in part, subject to condition, effective April 9, 2021, as discussed in the body of this order.

²⁵⁴ See, e.g., 2017-2021 DCR Order, 158 FERC ¶ 61,028 at P 61; 2014-2017 DCR Order, 146 FERC ¶ 61,043 at P 74.

²⁵⁵ N.Y. Pub. Serv. Law § 66-p ("The commission may, in designing the program, modify the obligations of jurisdictional load serving entities and/or the targets upon consideration of the factors described in this subdivision. . . . The commission may temporarily suspend or modify the obligations under such program provided that the commission, after conducting a hearing as provided in <u>section twenty</u> of this chapter, makes a finding that the program impedes the provision of safe and adequate electric service.").

(B) NYISO is directed to submit a compliance filing within 14 days of the date of this order, as discussed in the body of this order.

By the Commission. Chairman Glick is dissenting in part with a separate statement attached. Commissioner Danly is dissenting in part with whom Commissioner Chatterjee joins with a separate statement attached. Commissioner Clements is dissenting in part with a separate statement attached.

(SEAL)

Nathaniel J. Davis, Sr., Deputy Secretary.

UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.

Docket No. ER21-502-001

(Issued April 9, 2021)

GLICK, Chairman, dissenting in part:

1. I dissent in part from today's order because NYISO has not shown that its proposal to include dual fuel capability in the cost assumptions for the peaking facility used to establish the ICAP Demand Curve for the G-J Locality is just and reasonable and consistent with its Tariff. NYISO's Tariff requires that the proxy unit used to establish its ICAP Demand Curves reflect the resource "with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable."¹ NYISO has not established that in the G-J Locality, a dual fuel unit better satisfies that tariff provision than a gas-only unit connected directly to an interstate natural gas pipeline, which the record suggests could potentially have lower fixed costs while remaining economically viable. While I agree with many of the points outlined in Commissioner Clements's dissent,² I believe that the present record simply is not sufficient to answer the question one way or another. Accordingly, I would set this aspect of NYISO's proposal for hearing.

2. On a more general level, I cannot help but observe that this issue, and its central role in the NYISO capacity market, illustrates the extent to which we are not dealing with a market in any ordinary sense of the term. The administrative exercise of arguing about the cost attributes of a mythical power plant is about as far afield from market competition as anything I can imagine. We should not lose sight of these facts when presented with arguments about the need to prevent out-of-market actions from sullying the otherwise pure "market" that exists today.

3. Finally, while I agree that the just and reasonable amortization period is 20 years,³ I urge NYISO to examine adopting a different proxy unit or other more holistic reforms in light of New York's greenhouse gas reduction goals. Although it is by no means certain that what are currently gas-fired resources will retire by 2040, it is clear that they

¹ NYISO, Services Tariff, § 5.14.1.2.2 (30.0.0).

² N.Y. Indep. Sys. Operator, Inc., 175 FERC ¶ 61,012 (2021) (Clements, Comm'r, dissenting in part).

³ Id. P 161.

will make up a smaller and smaller share of the resource mix. Before long, a gas-fired resource may no longer represent a likely new entrant, even when reserve margins are tight. NYISO would be well-served to take a hard look at whether it makes sense to anchor its demand curve to a resource that is unlikely to enter the market and whether it should instead take steps to better align the capacity market's principal parameters with the goals of the state in which it operates.

For these reasons, I respectfully dissent in part.

Richard Glick Chairman

UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.

Docket No. ER21-502-001

(Issued April 9, 2021)

DANLY, Commissioner, *dissenting in part*, with whom CHATTERJEE, Commissioner, joins:

1. I dissent from the majority's rejection of the 17-year amortization period for the peaking generator plant that the New York Independent System Operator, Inc. (NYISO) proposed as part of its demand curve reset. New York has passed a law that "requires electricity demand in the State to be served by 100% zero-emission resources by January 1, 2040."¹ Accordingly, NYISO reasonably proposed to base the depreciation period for the natural-gas burning H class frame unit that serves as the proxy resource for its Net CONE calculation on the required date for that H class frame unit to exit service, which New York State law currently dictates will be January 1, 2040.

2. NYISO reasoned that 17 years was the average service life for a hypothetical H class frame resource to be in service over the five years covered by the demand curve reset, 2021-2025. I actually prefer a 15-year amortization period because it likely will take at least a couple of years to build such a unit after these new demand curves are implemented, but I would not substitute my judgment that 15-years is *more* just and reasonable for NYISO's 17-year proposal. Our sole duty in reviewing this section 205 filing is to determine whether NYISO's proposal is just and reasonable in the first instance.² It is. Potentially better ideas are irrelevant to our analysis.

3. The majority cites the "speculative assumption that all fossil-fueled resources will cease operation in 2040."³ I find this to be puzzling. Though no one can predict the future, no one disputes that this is what New York's statute requires. After dismissing the conclusion that New York will enforce its current law as speculative, the majority justifies its rejection of the 17-year amortization period by citing a provision in the same law that permits the New York Public Service Commission to "temporarily" suspend or modify its requirements.⁴ The majority does not explain why it is speculative to assume

¹ N.Y. Indep. Sys. Operator, Inc., 175 FERC ¶ 61,012, at P 149 (2021) (citing Climate Leadership and Community Protection Act, N.Y. Statutes, Chapter 106 of the laws of 2019 (July 18, 2019)).

² See City of Bethany v. FERC, 727 F.2d 1131, 1136 (D.C. Cir. 1984).

³ N.Y. Indep. Sys. Operator, Inc., 175 FERC ¶ 61,012 at P 161.

that New York will enforce its existing statutes as a basis for setting demand curves today, but it is not speculative to assume that New York will "temporarily suspend or modify" its laws in the future. Regardless, any such "temporary" suspension or modification is not only speculative, but also of indefinite duration and effect and thus not a reasonable basis upon which to reject NYISO's proposal.

4. Another argument protestors made is that fossil-fuel resources could retrofit in the future to meet New York's renewable mandate.⁵ This, too, is speculative. It is apparently also irrelevant as the majority does not see fit to address this argument. In any event, I doubt that retrofits on such a scale are likely to be spurred by artificially low capacity market prices. Retrofits are expensive, and it is obviously speculative to assume at this point that an H class frame will be able to extend its life 18 years from now by switching from burning natural gas to burning some zero-emissions fuel at a cost that would permit it to remain in service.

5. I also am troubled by the majority's cherry-picking of one assumption out of the dozens, or hundreds, or thousands, of assumptions built into the NYISO section 205 filing to reset demand curves, many of which reduce the costs used for the Net CONE calculation. It is true that this one assumption regarding the amortization period has a significant cost impact, but I disagree that these cost impacts are "unnecessarily high."⁶ *First*, the majority does not address record evidence raised in a protest that focused on the overall rate impact of the proposed demand curves, which is to significantly reduce capacity prices in critical zones.⁷ It is arbitrary and capricious to reject the proposed amortization period as too costly without considering the overall rate effect of the proposed demand curves. *Second*, it will be expensive to replace or retrofit all fossil fuel resources in New York in the next 18 years and 8 months, including many—like the hypothetical natural-gas burning H class frame peaking unit at the foundation of these

⁴ *Id.* P 161 n.255.

⁵ See, e.g., id. P 157 (summarizing arguments).

⁶ See id. P 161 (stating that the 17-year amortization period "may result in unnecessarily high Net CONE estimates").

⁷ See Independent Power Producers of New York, Inc. December 21, 2020 Protest and Supporting Comments at 6-8 (stating that NYISO's proposed demand curve "proposes reference point prices . . . that are as much as 20% lower in certain load zones") (IPPNY Protest). The majority twice mentions IPPNY's concern that changes to some assumption might drive down reference prices (*see N.Y. Indep. Sys. Operator, Inc.*, 175 FERC ¶ 61,012 at PP 28, 53), but omits any reference to IPPNY's larger point that the proposed demand curves already reduce demand curves by as much as 20 percent and that changes should not be made to drive the prices down "even further." *See* IPPNY Protest at 6-8. That is, of course, exactly what the majority does. Net CONE estimates—that have yet to be built. By requiring an artificially low demand curve today, we jeopardize reliability and only defer and increase the costs that consumers will ultimately have to bear when they eventually underwrite the construction of a new fleet of emissions-free generation resources.

6. Accordingly, I oppose the majority's determination regarding the correct amortization period. I otherwise support the order.

For these reasons, I respectfully dissent in part.

James P. Danly Commissioner Neil Chatterjee Commissioner

UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.

Docket No. ER21-502-001

(Issued April 9, 2021)

CLEMENTS, Commissioner, dissenting in part:

1. I dissent in part from today's order because NYISO has failed to demonstrate that the unit it has chosen as the proxy unit in the G-J locality, a peaking facility with dual fuel capability, is "the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable."¹ Such a demonstration is required by the plain terms of NYISO's tariff, but NYISO's own record evidence shows that a different unit, one *without* dual fuel capability, is the unit with the lowest fixed costs and highest variable costs that a different unit, one *without* dual fuel capability, is the unit with the lowest fixed costs and highest variable costs that is economically viable. The Commission's decision accepting NYISO's inadequately-justified proposal subjects customers in the Lower Hudson Valley to additional capacity costs, without giving those customers the benefit of any guarantee that any units that may actually be constructed in the Hudson Valley will have firm fuel supply. Simply put, the order requires customers to pay for a different level of reliability than what they are in fact receiving.

2. It is undisputed that nothing in NYISO's tariff, nor any state or federal rule of any kind, requires peaking units connected to the interstate pipeline system in the G-J locality to have dual fuel capability.² And while a unit connected to the Local Distribution Company (LDC) system in the region must have such capability, nothing compels a unit to connect to the LDC system rather than directly connecting to the interstate pipeline system. In fact, NYISO's own filings in this proceeding anticipate that a unit with such a connection may be constructed, and assume that such a unit would have the same interconnection costs as a unit connected to the local distribution company system.³ The

¹ NYISO, Services Tariff § 5.14.1.2.2 (30.0.0).

² See NYISO Transmittal at 18.

³ *Id.* ("[T]he gas interconnection cost assumptions reflect generic site assumptions and are intended to represent a cost to reasonably accommodate either gas interconnection option."); Deficiency Response at 6 ("Regardless of the type of interconnection, the NYISO's proposal for the G-J Locality ICAP Demand Curve includes the estimated costs associated with a 5-mile, 16-inch diameter gas lateral, plus the cost of an associated metering and regulation station. The capital cost estimate for the proposed peaking plant used in determining the G-J Locality ICAP Demand Curve evidence in the record put forward by NYISO indicates that a dual fuel unit would have fixed costs approximately \$40.5 million greater than a unit without such capability.⁴ By failing to select the lower fixed cost unit that is economically viable, NYISO has therefore violated the terms of its tariff.

3. NYISO argues that dual fuel is needed to provide "siting flexibility" to accommodate either type of connection point.⁵ But this argument implicitly recognizes that an interstate pipeline system connection point may be feasible. NYISO claims that such flexibility will minimize siting costs, but to the extent that the lowest cost development site turns out to be at a point of connection to the interstate system, such flexibility would be entirely superfluous to a unit's siting costs. Given NYISO's failure to provide any evidence that the costs of siting a unit to connect to the interstate system would be higher than those of a unit connected to the LDC system, and its own assumption that a generic unit with either type of connection would have the *same* costs, NYISO cannot escape the conclusion that a unit without dual fuel capability is economically viable and would have lower fixed costs than a unit possessing such capability. Because NYISO's inclusion of SCR technology in costs for the proxy unit depends upon that unit operating with dual-fuel capability,⁶ NYISO has likewise failed to demonstrate that SCR costs are properly included.

4. The majority order's approval of NYISO's proposed unit extols the reliability benefits of dual fuel.⁷ But using a dual fuel unit as the proxy in creating the demand curve for the Lower Hudson Valley does nothing to ensure that these reliability benefits will be achieved. The proxy unit is an input into the Cost of New Entry calculation but does not determine what types of units may actually be constructed. In the absence of a mandatory requirement for such capability, developers can be expected to pursue a profit maximizing strategy, regardless of the demand curve's underlying assumptions. NYISO does not claim that a unit without dual fuel capability would not be eligible to provide capacity, nor does it demonstrate that a non-dual fuel unit without firm fuel supply would

includes an aggregate assumed cost of \$23.5 million to interconnect the peaking plant to either a LDC system or an interstate pipeline.").

⁴ See NYISO Filing, attach. III, Ex. E, app. A, tbls. "1x0 GE 7HA.02 tuned to emit 25ppm Dual Fuel with SCR, Capital Costs" and "1x0 GE 7HA.02 tuned to emit 25ppm Gas Only with SCR, Capital Costs."

⁵ NYISO Transmittal at 18; Deficiency Response at 7-8.

⁶ See Majority Order at 50 ("NYISO states that the inclusion of dual fuel capability significantly affects the viability of the synthetic minor approach described above.").

⁷ Majority Order at P 42.
be de-rated or financially penalized in a manner that would jeopardize its economic viability.

5. The majority order seeks to dismiss Consumer Stakeholders' argument "that NYISO has violated its Services Tariff by failing to select the peaking facility design with the lowest cost" by suggesting that "Consumer Stakeholders misinterpret the Services Tariff to only require that the proposed peaking facility have the lowest fixed costs, rather than 'the lowest fixed costs and highest variable costs among all other units' technology that are economically viable.""8 But the broader standard contained in NYISO's tariff further supports Consumers' case. While NYISO argues that additional energy market revenues for a dual fuel unit "result in a larger offset to the peaking plant's gross capital investments costs," citing an example where a dual fuel unit in Zone G would earn approximately \$1.7 million in additional energy market revenues across a 12month period,⁹ that is a consequence of such a unit having lower variable costs. Under NYISO's tariff standard, which calls for the lowest fixed cost, *highest* variable cost unit, these variable cost benefits do not provide a rationale for choosing a dual fuel unit over a unit without such capability.¹⁰ NYISO has not provided evidence that this difference in energy market revenues is significant enough to impact the economic viability of a nondual fuel unit. To the contrary, as discussed above, NYISO's own filing suggests a unit directly connected to the interstate pipeline system would be economically viable.

6. The majority order refers to the Commission's past approval of NYISO demand curve proposals that similarly used a dual fuel proxy unit for the G-J locality.¹¹ But those prior orders were based on different information in the record. The Commission's most recent order found that, as in 2014, "the record reflects" that "the incremental costs of dual fuel capability would be more economical than the estimated cost of interconnecting to an interstate pipeline."¹² Here, by contrast, NYISO has assumed the *same* interconnection costs for units, whether or not they connect to the interstate or LDC pipeline system. In the absence of any information in the record on higher siting costs for a non-dual fuel unit, NYISO's own information suggests such a unit would be more, not

⁸ Majority Order at P 44.

⁹ Deficiency Response at 4-5.

¹⁰ Even if such costs were to be weighed against the higher up front costs associated with a dual fuel unit, the evidence in the record shows that the higher costs associated with a dual fuel unit far exceed the additional revenues such a unit would earn in the energy market.

¹¹ Majority Order at P 41.

 12 New York Independent System Operator, Inc., 158 FERC \P 61,028 at PP 92, 93 (2017).

less economically viable than a dual fuel unit given its lower fixed costs associated with the generation equipment.

7. As the Commission's recent inquiry into capacity market design principles suggests, it is far from clear that basing the NYISO demand curve around the costs of a proxy gas unit continues to make sense in the current context where the majority of new resources entering the NYISO market are doing so pursuant to state and local policy directives, as well as customer demand for clean resources, rather than solely responding to wholesale market price signals. But so long as existing market rules remain in place, NYISO should be required to make the demonstration mandated by its tariff. The majority order fails to apply the required scrutiny to NYISO and thereby renders energy bills less affordable for New York customers without giving those customers correspondingly significant reliability benefits.¹³

For these reasons, I respectfully dissent in part.

Allison Clements Commissioner

¹³ While a higher priced demand curve may attract a greater level of reserves, it does nothing to guarantee that units entering the market have dual fuel capability. Under NYISO's capacity market design principles, setting each locality's demand curve based on the lowest cost unit capable of meeting NYISO's capacity requirements should be expected to procure sufficient capacity reserves to meet the region's target reserve margin.