Comments of DPS Staff, City of New York, Multiple Intervenors and Consumer Power Advocates on the Proposed NYISO Installed Capacity Demand Curves for the 2021-2022 Capability Year and Annual Update Methodology and Inputs for the 2022-2023, 2023-2024, 2024-2025 Capability Years

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INTRODUCTION

The New York State Department of Public Service (DPS) Staff, City of New York, Multiple Intervenors and Consumer Power Advocates (collectively, the Consumer Stakeholders) hereby submit these informal comments on the *Proposed NYISO Installed Capacity Demand Curves for the 2021-2022 Capability Year and Annual Update Methodology and Inputs for the 2022-2023, 2023-2024, 2024-2025 Capability Years* ("NYISO Draft Recommendations"), issued August 2020 by the New York Independent System Operator, Inc. ("NYISO"). The NYISO's initial recommendations for the installed capacity ("ICAP") demand curves address proposals advanced by Analysis Group, Inc. and Burns & McDonnell (collectively the "Consultants") in their *Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2021/2022 through 2024/25 Capability Years—Interim Final Draft Repor*t ("Consultant Interim Final Draft Report").

As the NYISO is aware, the Consumer Stakeholders recently submitted joint comments on the Consultants' Interim Draft Report. Within the joint comments, the Consumer Stakeholders objected in part and supported in part to the recommendations advanced by the Consultants. However, notwithstanding forthcoming changes to several assumptions, the Consumer Stakeholders were generally supportive of the recommendations provided by the Consultants with respect to the demand curve modeling inputs, with a few exceptions. After receipt of the comments submitted, NYISO Staff adopted all of the recommendations proposed by the Consultants.

Given that NYISO Staff generally agrees with the rationale underlying the Consultants' recommendations in the Interim Final Draft Report, the Consumer Stakeholders will not repeat all of the concerns discussed at length in comments previously submitted in order to avoid unnecessary repetition. However, the Consumer Stakeholders hereby affirm all positions advanced in those previous comments and refer NYISO Staff to those comments, which are attached hereto for ease of reference.

These comments provide additional support or opposition to NYISO Staff's recommendations regarding (i) the inclusion of selective catalytic reduction ("SCR") technology and dual fuel capability on certain proxy peaking units; (ii) the use of a shortened amortization period for the proxy peaking unit; (iii) the use of overstated debt and equity finance parameters; and (iv) changes to the net energy and ancillary services ("EAS") revenues model.

DISCUSSION

1. NYISO Staff and the Consultants Failed to Demonstrate That Proxy Peaking Units Located in Load Zone G (Dutchess) Should Include SCR Technology and Dual Fuel Capability

The NYISO's Market Administration and Control Area Services Tariff ("Services Tariff") provides that this Demand Curve reset ("DCR") process must define a proxy peaking unit "that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable...."[1] A gas-only peaking unit without SCR technology will have lower fixed costs than an identical unit with dual fuel capability and SCR without affecting air quality.

A. SCR Technology

[1] Services Tariff at §15.4.1.2.2.

The Consultants recommended a dual fuel peaking plant design for Load Zone G (Dutchess) and Load Zone G (Rockland). Initially, the Consultants recommended that the Zone G (Dutchess) proxy unit not include SCR emissions controls because the unit could maintain the necessary emissions requirements and not impact air quality by synthetically limiting the potential to emit, becoming a "synthetic minor source" requiring a less strict permitting analysis.[2] The Consultants' Initial Draft Report concluded that:

> with a synthetic minor that may limit run hours, the installation of SCR emissions controls may ultimately be an economic decision by the plant developer, which trades off significant up-front capital costs and additional operating costs against loosened runtime restrictions. If the unit would not be expected to run for the number of hours that would require SCR emissions controls in many years, then it may not be economic for a new plant to install SCR emissions controls. Considering the balance of costs and risks discussed above, it is AGI's and BMCD's opinion that the developer of a new plant in Load Zones C, F, and G (Dutchess) in New York would not seek to include SCR emissions control technology at the time of construction due to economic considerations. Instead, for these locations, it is assumed that the developer would accept and adhere to the applicable annual operating hours limit necessary to become a synthetic minor source.[3]

However, in the Interim Final Draft Report, the Consultants reversed this recommendation, citing two reasons for doing so, none of which involve potential impacts to air quality as a result of excluding SCR technology.[4] "*First*, SCR emission controls provides optionality to operate above the synthetic minor operating limit, which could be financially valuable in the future. [The

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2 Analysis Group, Inc. and Burns & McDonnell, *Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2021/2022 through 2024/25 Capability Years—Initial Draft Report* ("Consultant Initial Draft Report") at 29-30.

3 *Id.*

4 Analysis Group, Inc. and Burns & McDonnell, *Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2021/2022 through 2024/25 Capability Years—Interim Final Draft Report* ("Consultant Interim Final Draft Report") at 30.

Consultants'] three-year analysis does not fully capture value of this optionality. Future net EAS revenues may be greater than net revenues in the historical years evaluated given the potential increases in demand for operation from the peaking plant from increased levels of renewables and potential retirements of gas turbines downstate due to the NYDEC 'peaker rule.'"[5]

The demand curve reset process occurs every four years in order to take into account future changes to the market. Therefore, the Consultants and the NYISO have generally disfavored including speculative future market inputs into the model (*e.g.*, anticipated future revenues from reserve products). The Consumer Stakeholders disagree with the Consultants' justification for reversing course on SCR as it calls for speculation about future market conditions affecting EAS revenues that do not take into account all potential contributing factors.

For example, it is expected that there will be increased levels of energy storage systems and transmission added to the State's electric system in the coming years. The State has established a goal to have 3,000 MWs of energy storage installed by 2030. Additionally, the T027 (Segment A of the AC Transmission need) and T019 (Segment B of the AC Transmission need) Public Policy Transmission projects are anticipated to be completed by December 2023, which will increase the electric energy import capability into Zone G by increasing the UPNY-SENY electric transmission interface limit by at least 900 MW.[6] Thus, it is very likely that there will be reliance on energy storage resources and the additional 900 MW of import capability before requiring the Zone G (Dutchess) peaking unit to operate for more hours, thus triggering the need for SCR technology.

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5 *Id.*

6 *See* NYISO Board of Directors' Decision on Approval of AC Transmission Public Policy Transmission Planning Report and Selection of Public Policy Transmission Projects dated April 8, 2019 at 1-2.

Neither the Consultants nor NYISO Staff has demonstrated that the increased net EAS revenue received by the Zone G (Dutchess) peaking unit due to the installation of SCR is sufficient to financially justify the increased up-front SCR installation cost. The up-front SCR installation cost is significant. The Consultants estimated that including SCR technology would cause the Gross CONE for the GE 7HA.02 ("H Class Frame") generator in Zone G (Dutchess) to increase from $134.35/kW-yr. to $145.77/kW-yr., which is an increase of $11.42/kW-yr.[7] However, the Consultants calculated that including SCR would cause the net EAS revenue over the three-year historical period to increase from $36.00/kW-yr. to $36.25/kW-yr., which is only an increase to net EAS revenue of $0.25/kW-yr.[8]

When you do a quantitative comparison, in order to offset the cost of including SCR, the impact of SCR on future net EAS revenues would have to be more than forty times the impact that SCR had on net EAS revenue during the three-year historical period. No analysis has been performed that demonstrates that inclusion of SCR technology on the Zone G (Dutchess) proxy unit will have such an impact on increasing future net EAS revenue as compared to historical impact. Furthermore, if the rationale for including SCR technology in Zone G (Dutchess) is additional future revenue opportunities, then an attempt should be made to quantify that additional revenue for the proxy unit. This type of analysis is imperative to supporting the Consultants' speculative conclusion that developers will voluntarily incur the cost of including SCR technology despite it not being economic.

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7 *See* cells AE38 and AE87 in the "Multiple Scenario Output" tab of the consultants' demand curve model.

8 *See* cells W38 and W87 in the "Multiple Scenario Output" tab of the Consultants' demand curve model.

The second rationale provided by the Consultants for reversing course on exclusion of SCR technology in Zone G (Dutchess) is that "the installation of SCR emissions control could mitigate potential permitting and siting risk associated with building a new dual fuel unit in the lower Hudson Valley . . . without back-end emissions control technology. Within this context, a potentially relevant consideration is that the lower Hudson Valley also contains severe non-attainment areas and that selecting a plant without SCR emissions controls would not accommodate potential new plants throughout the region."[9] This rationale conflates several steps of the NYISO's demand curve reset process.

Preliminarily, it is important to establish that there is no statutory or regulatory requirement to install SCR technology for generators built in areas of attainment. The demand curve process analyzes the cost to build a Zone G proxy unit in both Dutchess and Rockland County, as each Zone G geographic location provides different characteristics from a permitting perspective, primarily due to air emissions limitations. Therefore, the NYISO has deemed it important to the demand curve process to assess both regions, as this is the analysis a developer would undergo in reviewing the most economic location to site a peaking unit in Zone G.

The Consultants' speculative conclusion that exclusion of SCR would limit potential new units throughout the region is troubling. There are five counties located outside of the severe non-attainment area in Zone G: Dutchess, Greene, Ulster, Orange and Putnam County. In fact, there is only one county in Zone G – Rockland County – that is located within a severe non-attainment area. Accordingly, there are ample geographic locations across Zone G to locate a peaking unit that are outside of a non-attainment area, that allows a developer to maintain air quality standards while also avoiding the need to install expensive SCR technology.

[9] Consultant Interim Final Draft Report at 30.

Consistent with the review of two geographic locations within Zone G, it is a reasonable conclusion that if there are development cost advantages (*e.g.*, permitting, capital expenditures) significant enough to outweigh building a peaking unit within a severe non-attainment area within Zone G, then a developer would exercise such options due to greater profitability and locate the unit in an attainment area (five other counties). This is precisely why the NYISO's demand curve reset process analyzes two regions within Zone G. If the Consultants, or the NYISO, artificially attach inapplicable permitting and siting requirements – emissions limits of a severe non-attainment area – to regions that are not subject to such requirements, then this defeats the entire purpose of studying two Zone G locations, and does not result in an accurate net CONE value. New developers will likely choose to locate where costs are the lowest, maximizing their profit potential. Arbitrarily choosing an inaccurate, overinflated cost will overstate net CONE for the proxy unit and will burden consumers with unnecessary capacity costs for years to come.

The NYISO Draft Recommendations also state:

> Even within the portions of the lower Hudson Valley subject to the less restrictive 100 tons/year NOx emissions limit, such as Load Zone G (Dutchess County), the allowable hours of operation could be as low as only 300 hours annually depending on the number of hours a dual-fuel design may be required to operate on [ultra-low sulfur diesel]. As a result, reliance on a 'synthetic minor source' approach for a dual-fuel plant design in Load Zone G (Dutchess County) is likewise not practical for a resource needed to maintain reliability."[10]

There is no evidence in the Consultants' Interim Final Draft Report or the NYISO's Draft Recommendations that supports this position, or the number of hours a new resource would need

[10] NYISO Draft Recommendations at 13-14 (footnote omitted).

to run to maintain reliability. In fact, the 300 hour synthetic limitation is a conservative approach, and a proxy unit without SCR technology indeed may be able to run for more than 300 hours, especially if it is not running on oil for any of those hours.

For these reasons, the Consumer Stakeholders submit that the NYISO Staff should reverse course and adopt the Consultants' initial recommendation that the H Class Frame unit not require SCR technology in Zone G Dutchess County.

B. Dual Fuel Capability

The Consultants continue to recommend that the peaking plant technology design should include dual fuel capability in Load Zones G, J, and K. The Consumer Stakeholders do not take issue with this peaking unit design for Load Zones J and K. However, we do oppose the continued inclusion of dual fuel capability for Zone G. Mandating such capital expenditures for dual fuel capability absent law or regulation is unreasonable and unwarranted as it does not result in the lowest fixed costs as required by the Services Tariff.

The Consultants' rationale for including dual fuel for Zone G remains the same as it did in the last demand curve reset proceeding: "based on the consideration of a number of tradeoffs a developer would consider when deciding whether or not to include dual fuel capability in a development project in New York state and whether, on balance, a developer would more likely than not decide to include dual fuel capability based on such considerations."[11] More specifically, the Consultants point to the economic benefits to operating on alternate fuel oil when the price of oil is lower or when natural gas supply may be constrained during the winter months; greater siting flexibility; and the State's reliance on natural gas for power generation into the future.[12] The

[11] Consultant Interim Final Draft Report at 35.

[12] *Id.*

Consultants' recommendation creates the assumption that any new generating facility built in Zones G will have dual fuel capability and, therefore, should be compensated for the incremental cost of such capability.

As a threshold matter, dual fuel capability in Zone G is not required by law, regulation or New York State reliability rule. The Consumer Stakeholders refute the reasons provided by the Consultants for including dual fuel. Contrary to the Interim Final Draft Report, there is no dual fuel requirement for Zone G. The Consultants assume that the proxy peaking plant would interconnect with a Local Distribution System ("LDC") system and be subject to utility tariffs that require generators to have an alternate fuel. However, we know that a generation facility can interconnect directly into an interstate gas pipeline, thus avoiding LDC backup fuel requirements.

Following the 2016 demand curve proceeding, the NYISO instituted a project wherein the Analysis Group performed a forward-looking assessment of the fuel and energy security of the New York electric grid during winter operations. The Report is called *Fuel and Energy Security in New York State: An Assessment of Winter Operational Risks for a Power System in Transition (November 2019)* ("Fuel Security Study"). The Study analyzed the availability of natural gas under a number of system scenarios. Importantly, the study did not recommend or result in a statewide dual fuel capability mandate. The outcome of the Fuel Security Study is important, as it was performed as a result of these very questions during the 2016 demand curve reset process. More consideration should have been given to the outcome of the Fuel Security Study.

While the Consumer Stakeholders support maintaining system reliability, the relevant exercise remains one of identifying the most economic peaking plant that can be developed (with the "lowest fixed costs") and it is not evident that there is a nexus between requiring dual fuel capability and improved system reliability. Requiring a peaking plant to include dual fuel

capability at this time, when not required by rule or law, would have the effect of increasing capacity costs to consumers and having consumers pay for a benefit that may not be realized. For example, Cricket Valley Energy Center, LLC chose to build their 1,020 MW electric generating facility with only natural gas fuel burning capability.[13]

The Consultants' Interim Final Draft illustrates that there was no oil-fired generation September 2016 to August 2017 and September 2018 August 2019 timeframes. The Consultants' data shows that in the past 3 years, a dual fuel Zone G (Dutchess) unit without SCR ran only 5-less hours than one with SCR.[14] It appears that the Consultants assumed that a dual fuel unit in Zone G (Dutchess) would receive more EAS revenue from oil-burn than recent history actually indicates. Given this historical context, the Consumer Stakeholders submit that this further underscores the position advanced above that a developer would forgo putting in SCR controls for a Zone G (Dutchess) unit because the investment isn't worth the occasional additional revenue.

The insignificant number of hours that a Zone G (Dutchess) unit has historically chosen to run on oil also supports the argument that this unit should not be required to have dual fuel capability. If the peaking unit proves economic and does not inhibit air quality standards by having dual fuel capability with no SCR, the need for dual fuel is obviated and the unit should be able to run for even more hours as a gas-only synthetic minor source.

2. <u>The Amortization Period for the Fossil-Fueled Proxy Peaking Unit Should Be 20 Years</u>

The Consumer Stakeholders oppose the NYISO's acceptance of the Consultants' recommendation that it is necessary to reduce the amortization period for fossil-fueled plant technologies from 20 years to 17 years due to the Climate Leadership and Community Protection

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13 *See* NYISO 2020 Gold Book, Table III-2: Existing Generating Facilities.

14 *See* Consultant Interim Final Draft Report, Appendix D.

Act ("CLCPA"). The Consumer Stakeholders will not restate the arguments already advanced in its comments in response to the Consultants' Interim Draft Report and adopt them herein.

The NYISO Draft Recommendations provide that "[a]t this time, the NYISO believes that there is not sufficient clarity as to which alternative fuels or other operational modifications would qualify as "zero-emission" under the CLCPA, the cost of procuring those fuels for use in generating electricity, and the potential capital costs associate with retrofitting an existing plant to permit continued operation beyond December 31, 2039."[15]

The Consumer Stakeholders support the points raised by the Independent Market Monitoring Unit, Potomac Economics ("Potomac") in their comments in response the Consultant's Interim Draft Report. During the stakeholder meetings, the Consultants were asked to perform the model analysis under a scenario as described in Potomac's comments: in place of a 17-year amortization period, keep the amortization at 20 years and instead eliminate energy revenues for the last three years of the projects' life and retain only reserve revenues during those years. No such analysis was performed by the Consultants.

Notwithstanding the Consultants' and NYISO Staff's persistence to assume that there will be no fuel-switching as a result of future adherence with the CLCPA, the Consumer Stakeholders submit that there have been options presented, in both comments and during the stakeholder working group meetings, that set forth potential alternatives to simply reducing the peaking unit's amortization period that were discarded without proper consideration. The Consumer Stakeholders request that the NYISO reconsider these requests and perform the analysis as described by the Potomac.

[15] NYISO Draft Recommendations at 25.

As the Consumer Stakeholders have mentioned numerous times in stakeholder working group meetings, there is enough information, both through the NYISO's own planning studies as well as independent projections by generation developers (inside and outside of New York), that there will be fuel switching in the future and not all existing dispatch sources will retire. Reducing the amortization period makes an assumption about the future topology of the electric system that is simply not supported.

3. The Cost of Debt and Cost of Equity Parameters Assumed by the Consultants Are Too High and Should be Lowered

a. Cost of Debt

The Consultants' Interim Final Draft Report recommends a 6.7% cost of debt for the proxy unit. This is partly based on data from four power companies (Calpine Corporation, NRG Energy Inc., Talen Energy Supply LLC and Vista Energy Corporation) from January 2017 until the present, "B" rated debt and current financial market conditions. The Interim Final Draft Report correctly notes that the outbreak of the novel coronavirus COVID-19 initially resulted in a higher cost of debt for "BB" and "B" rated securities. "BB" rated debt has fallen from just below 9% in the second half of March to 4.43% for July 2020, while "B" rated debt has experienced a similar decline from above 12% to 6.18% for July 2020. Additionally, the Consultants 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, it is appropriate to consider "BB" generic debt rates in determining the overall debt costs, especially since each of the four companies the Consultants cite to issued debt at ratings above "B" in 2019.

The Consumer Stakeholders also 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. We recognize not all independent power producers will be rated "BB" and some will be

rated lower. As a result, the Consumer Stakeholders recommend that adding 1.5x the spread between "BBB+" utility rated debt and "BB" corporate debt of 90 basis points to the average "BB" yield of 4.75%. This results in a rate of 5.65%, which is still below the recommended Consultants' 6.7% debt cost rate. Accordingly, the NYISO should adopt a lower cost of debt consistent with a rate of 5.65%.

b. Cost of Equity

The nationwide average awarded return on equity ("ROE") for predominately regulated electric utilities is approximately 9.5% as reported by Regulatory Research Associates for 2020. Based upon the previously explained yield requirements of investors, the Consumer Stakeholders submit that a spread above the average authorized ROE for regulated electric utilities of 100 basis points (10.5%) will adequately compensate equity investors for the additional risks faced by a power producer. The recommended 13.0% ROE appears excessive in light of objective market data. Accordingly, the Consumer Stakeholders urge the NYISO to lower the ROE consistent with a rate of 10.5%.

4. <u>Changes to the Net EAS Calculation are Reasonable</u>

The model used by the Consultants to develop the estimated energy and ancillary service revenues for the peaking unit includes a fuel procurement cost as part of the opportunity cost for providing operating reserves. The assumed cost is attributable to the cost associated with selling back unneeded fuel that was procured in advance of providing reserves. Initially, the Consultants included an assumption that fuel would be sold back at a discount of 10% in Load Zone G, 20% in Load Zone J and 30% in Load Zone K, which lead to implied costs as high as $18/MWh and wildly fluctuating on a monthly average basis.

Potomac performed an analysis of actual offers of comparable units and found that the

actual capacity-weighted average reserve offer was approximately $2/MWh. Importantly, Potomac also found that the $2/MWh is a consistent level with little volatility between months.

In its Final Interim Draft Report, the Consultants appropriately updated their analysis to better reflect expected offers, and the NYISO adopted the Consultants'' use of a $2/MWh opportunity cost of providing reserves in Load Zones G, J and K. As Potomac pointed out, the initial assumption was especially unreasonable for dual fuel units, as they could operate on back-up fuel if converted in real-time.

The Consumer Stakeholders strongly support the recommendation of NYISO Staff to assume a more realistic cost of $2/MWh for the cost of providing reserves for the proxy unit in Load Zones G, J and K. As the analysis performed by Potomac clearly demonstrates, this would be consistent with the actual offer prices by units operating in the market. Potomac stated that "[f]ailing to make this adjustment will lead to unrealistically low reserve schedules and net revenues, especially in Load Zones J and K."[16] Therefore, it would be inequitable to assume the costs associated with dual fuel capability without considering the benefits and flexibility of that capability. For these reasons, the Consumer Stakeholders support the recommendation of the NYISO to change the cost of providing operating reserves for purposes of calculating net EAS revenues.

[16] *See* Potomac Economics Memorandum, *MMU Comments on Independent Consultant Initial Draft ICAP Demand Curve Reset Report and the Forthcoming Draft of NYISO Staff DCR Recommendations* (August 5, 2020), p. 9.