Comments of City of New York and Multiple Intervenors on the Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2025/2026 through 2028/2029 Capability Years – Draft Report

June 28, 2024

INTRODUCTION

The City of New York and Multiple Intervenors (collectively, the "Consumer Stakeholders") hereby submit these informal comments on the Draft Study to Establish New York Electricity Market ICAP Demand Curve Parameters ("Draft Report"), issued on June 17, 2024, by Analysis Group, Inc. ("AG") and 1898 & Co. (collectively, the "Consultants").

The Draft Report advances the Consultants' current recommendations with respect to how the New York Independent System Operator, Inc. ("NYISO") should resolve numerous issues relating to the ICAP Demand Curve Parameters for the 2025/2026 through 2028/2029 Capability Years, including, but not limited to: (a) selection of the proxy peaking unit technology that satisfies, for the New York Control Area ("NYCA") and each Locality, the requirements of the NYISO's Market Administration and Control Area Services Tariff ("Services Tariff"); (b) estimation of the gross cost of new entry for each proxy peaking plant; (c) estimation of Energy and Ancillary Services revenues for each proxy peaking plant; and (d) determination of the reference price point and ICAP Demand Curves for the NYCA and each Locality.

These comments focus on the selection of the proxy peaking unit technology that satisfies the Services Tariff. In the Draft Report, the Consultants recommend adoption of a two-hour battery energy storage system ("BESS") as the proxy peaking unit technology for the NYCA and each Locality. For the reasons set forth herein, Consumer Stakeholders agree with the Consultants' recommendation and urge the NYISO to adopt it.

DISCUSSION

Section 5.14.12 of the Services Tariff requires that the proxy peaking unit utilized for purposes of calculating ICAP Demand Curve Parameters be "the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable ...." As demonstrated convincingly by the analyses conducted by the Consultants and set forth in the Draft Report, a 2-hour BESS is the appropriate technology for calculating the new ICAP Demand Curve Parameters.

As part of this Demand Curve Reset process, the following technologies were evaluated for possible use as the proxy peaking unit technology: (a) five different aeroderivative combustion turbine models (*i.e.*, the LM6000 and LMS100 models manufactured by General Electric, the SGT-A35 model manufactured by Siemens, and the FT8 and FT4000 models manufactured by Mitsubishi Hitachi Power Systems); (b) nine different frame combustion turbine models (*i.e.*, the 7HA.01, 7HA.02, 7HA.03, and 7HA.05 models manufactured by General Electric, the SGT6-5000F, SGT6-8000H, and SGT6-9000HL models manufactured by Siemens, and the 501GAC and 501GAJ models manufactured by Mitsubishi Hitachi Power Systems); (c) reciprocating internal combustion peaking turbines (eliminated from further consideration after initial screening); (d) four different types of BESS, all of which are 200 MW and reliant on lithium-ion technology (*i.e.*, 2-hour, 4-hour, 6-hour, and 8-hour); and (e) for informational purposes, a hydrogen fuel retrofit of simple-cycle natural gas turbine. (*See* Draft Report at 13-21.)

Based on those evaluations, the Consultants determined that a 2-hour BESS "represents the highest variable cost, lowest fixed cost peaking plant that is economically viable" for the NYCA and all Localities. (Report at 7.) Such determination is well-supported by the economic and financial analyses conducted to date. (*See*, *e.g.*, Report at 10-11, Tables 3-5.) Frankly, based

on "the numbers," selection of a 2-hour BESS as the proxy peaking unit technology is the clear-cut choice with no close or even obvious alternative.

Moreover, it is beyond rational dispute that a 2-hour BESS based on lithium-ion technology is in fact a viable technology. Indeed, the Consultants conclude that: "The lithium-ion battery storage market is growing, largely due to declining costs for lithium-ion battery technology and continued penetration of intermittent renewable energy resources." (Draft Report at 18.) The Consultants also refer to lithium-ion technology as "the most commercially mature battery storage technology in the market at this time." (*Id.*)

During the stakeholder process, several arguments were advanced in opposition to selection of a 2-hour BESS as the proxy peaking unit technology for the NYCA and each Locality. For the reasons set forth below, those arguments should be rejected.

Initially, some stakeholders have argued that a 2-hour BESS might not represent "the unit with technology that results in the lowest fixed costs and highest variable costs" depending on future values for the NYISO's Capacity Accreditation Factors ("CAFs"). This argument must fail on at least two grounds. First, the economic and financial analyses conducted by the Consultants reflect the current CAFs, as calculated by the NYISO:

> [T]o reflect the impact of [CAFs] and derating factors on the choice of peaking plant technology option for each ICAP Demand Curve, AG considers the relevant UCAP reference point prices for each technology option in selecting the appropriate peaking plant technology for each demand curve. An economic evaluation of the peaking plant technology options without consideration of CAFs or derating factors would fail to appropriately reflect the marginal reliability contribution of each peaking plant technology option towards meeting [New York State Reliability Council] resource adequacy requirements for the Upcoming Capability Year. The selected peaking plant technology for each capacity region should result in curves representing the lowest cost on a UCAP basis.

(Report at 109.) Thus, the analyses that identified a 2-hour BESS as the appropriate proxy peaking unit technology incorporated the existing CAFs.

Second, arguments based on potential future CAF levels must be rejected as purely speculative. There is no way for the Consultants, or the NYISO, to predict future CAF levels with any acceptable degree of accuracy. There simply are too many variables that, depending on future circumstances, could result in CAFs that are higher or lower for various technologies than those in effect today. The Report recognizes such uncertainties explicitly:

> Going forward, CAFs will vary each year depending on the mix of resources in the system, load profiles and other factors. Changes in CAFs create uncertainty for future revenue streams as a lower CAF would reduce revenues and a larger CAF would increase revenues. However, future CAFs are uncertain given uncertainty in the expansion of, for example, battery storage technology and intermittent renewables in New York, which could tend to have countervailing impacts on battery storage CAFs depending on the timing, magnitude, and types of future resource additions.

(Report at 57.) Thus, arguments in opposition to the selection of a 2-hour BESS as the proxy peaking unit technology based on hypothetical future increases or decreases to existing CAF levels must be rejected as unduly speculative.

Some stakeholders have argued in opposition to the selection of a 2-hour BESS that 4-hour BESS installations are more common and/or that State policymakers prefer longer-duration BESS technologies. Such arguments should be rejected as irrelevant to the Demand Curve Reset process set forth in the Services Tariff. The NYISO, with recommendations from the Consultants, ultimately must choose as the proxy peaking unit for the NYCA and each Locality, "the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable ...." (Services Tariff § 5.14.12.) Thus, the fact that 4-hour BESS installations may outnumber 2-hour BESS installations is irrelevant, as is any potential

preference by State policymakers for longer-duration BESS technologies.[1] The Services Tariff prescribes specific criteria to be satisfied in the selection of a proxy peaking unit technology and a 2-hour BESS is the technology that satisfies such criteria.

Finally, some stakeholders have argued that when the State becomes winter peaking, a 2-hour BESS would not provide adequate reliability during potential peak events. Again, such arguments must be rejected as irrelevant to the exercise at hand. Initially, the fact that New York may become a winter-peaking state sometime in the next decade has no bearing whatsoever on the selection of the appropriate proxy peaking unit technology for the 2025/2026 through 2028/2029 Capability Years. Furthermore, while undertaken in the furtherance of maintaining competitive capacity markets, the Demand Curve Reset process, including the selection of appropriate proxy peaking unit technologies, essentially is an administrative exercise that does not concern itself with potential (*i.e.*, speculative) future resource adequacy concerns. Again, the NYISO must adhere to the specific selection criteria set forth in Section 5.14.12 of its Services Tariff, and arguments that go beyond (and, in this case, well beyond) the scope of such criteria should be summarily rejected.

For the foregoing reasons, the Consultants' recommended selection of a 2-hour BESS as the proxy peaking unit technology for the NYCA and all Localities is well supported and should be adopted by the NYISO.

[1] Consumer Stakeholders note that potential State policymaker preferences did not preclude the selection of gas-fired generation technologies as the proxy peak units in the NYCA and all Localities in the last Demand Curve Reset process.