Comments on "Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2021/2022 through 2024/25 Capability Years—Initial Draft Report"

Submitted by the New York Transmission Owners

July 1, 2020

The New York Transmission Owners ("TOs")[1] hereby submit the following comments on "Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2021/2022 through 2024/25 Capability Years—Initial Draft Report" ("Draft Report"), released by Analysis Group, Inc. and Burns & McDonnell (jointly, "Consultants") on June 4, 2020.

1. Peaking Plant Technology

The Draft Report recommends that the ICAP demand curves for all four capacity regions (New York Control Area ("NYCA"), G-J Locality, New York City ("NYC") and Long Island) reflect the net cost of developing an H Class frame generator. The TOs concur with this recommendation. In the last demand curve reset ("DCR"), the H Class frame generator was studied for informational purposes, because no units using the technology were in service as of that time.[2] However, as noted in Table 7 of the Draft Report, H Class frame generators have since entered service. It is therefore appropriate to consider H Class frame generators.

It has been suggested in the course of Installed Capacity Working Group discussions that Executive Order No. 52, which was issued earlier this year by the mayor of New York City, prevents generators using fossil fuels from being built in NYC. However, the mayor's Office of Sustainability has stated that the city's opposition to the addition of new fossil fuel generation (H Class or otherwise) does not apply in all circumstances, as agency heads were also directed to consider potential economic impacts. Consequently, the Office of Sustainability concluded, "NYISO's designation of a fossil fuel generation facility as the 'proxy unit' … is not prohibited by, or inconsistent with EO-52."[3] With that concern addressed, the H Class frame generator can be used as the basis for the ICAP demand curve for NYC.

2. Selective Catalytic Reduction

The Draft Report recommends that the costs for an H Class frame generator, if built in Rockland County in Zone G, in NYC, or on Long Island, include the cost of selective catalytic reduction ("SCR"). The Draft Report also recommends that the cost for an H Class frame generator exclude the SCR cost if that generator is built in Zones C, F, or Dutchess County in Zone G. The TOs concur with this recommendation.

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[1] The TOs consist of Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York Power Authority, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., Power Supply Long Island, and Rochester Gas and Electric Corporation.

[2] *See* Analysis Group, Inc. and Lummus Consultants International, Inc., Study to Establish New York Electricity Market ICAP Demand Curve Parameters, Sept. 13, 2016, at 17.

[3] Letter from Suzanne DesRoches to Richard Dewey, Apr. 16, 2020.

Zones C, F, and Dutchess County in Zone G are outside of the downstate non-attainment area, so generating units built in these locations are not required to install SCR. Assertions that they might be required to do so at some point in the future are wholly speculative and should therefore be disregarded. If regulations are issued at some point that would require generators built in one or more of these locations to include SCR, the impact of the changed circumstances can be addressed in subsequent DCRs. As FERC explained in approving the 2013 DCR, and reiterated in the order it issued following the 2016 DCR, "'[w]hile there is always a risk that regulations will change in the future, we cannot base the finding of viability on speculation that the [U.S. Environmental Protection Agency] or New York State regulators will act at some point in the future;' rather, the [DCR] process takes place every four years 'so that changed circumstances, such as new regulations, can be taken into account.'"[4]

3. Dispatch Model and Level-of-Excess Adjustment Factors

The Draft Report calculates net energy and ancillary services ("EAS") revenue that would have been realized by the H Class frame generator during a three-year historical period using a dispatch model that is very similar to the model used in the last DCR. Similarly, the level-of-excess adjustment factors ("LOE-AFs"), which are used to account for the impact that reducing the amount of excess capacity during the three-year historical period would have had on net EAS revenue, were determined using a procedure that is very similar to that used in the last DCR. Following the last DCR, FERC found that the demand curves produced using those procedures were just and reasonable. There is no evidence to invalidate FERC's conclusion, so the TOs support the continued use of those procedures.

4. Natural Gas Price Indices

The Draft Report calculates net EAS revenue realized by the H Class frame generator under the assumption that the unit would have purchased gas at the TGP Zone 4 (200L) price if the unit is located in Zone C; at the Iroquois Zone 2 price if the unit is located in Zone F, Dutchess County in Zone G, or Long Island; at the TETCO M3 price if the unit is located in Rockland County in Zone G; or at the Transco Zone 6 price if the unit is located in NYC. The TOs concur with these assumptions.

Geography Criterion

The TOs believe that the Geography criterion is the most important of the four criteria that the Consultants used to evaluate potential gas price indices. As the Draft Report states, the Geography criterion indicates whether a pipeline has "an appropriate geographic relationship to potential peaking plant locations going forward, or otherwise have a logical nexus to prices at relevant delivery points."[5] The gas price indices recommended in the Draft Report meet this criterion at all six of the locations considered in the Draft Report. This is critical because, in order to determine "the likely projected annual Energy and Ancillary Services revenues of the peaking plant for the first Capability Year covered by the periodic review, net of the costs of producing such Energy and Ancillary Services," as required by Section 5.14.1.2.2 of the Services Tariff, it is necessary to determine the gas cost that a gas-fired generator in a given location would have incurred to purchase gas. Indices that do not indicate the cost that a generator in a given location would have incurred to purchase gas are therefore not germane.

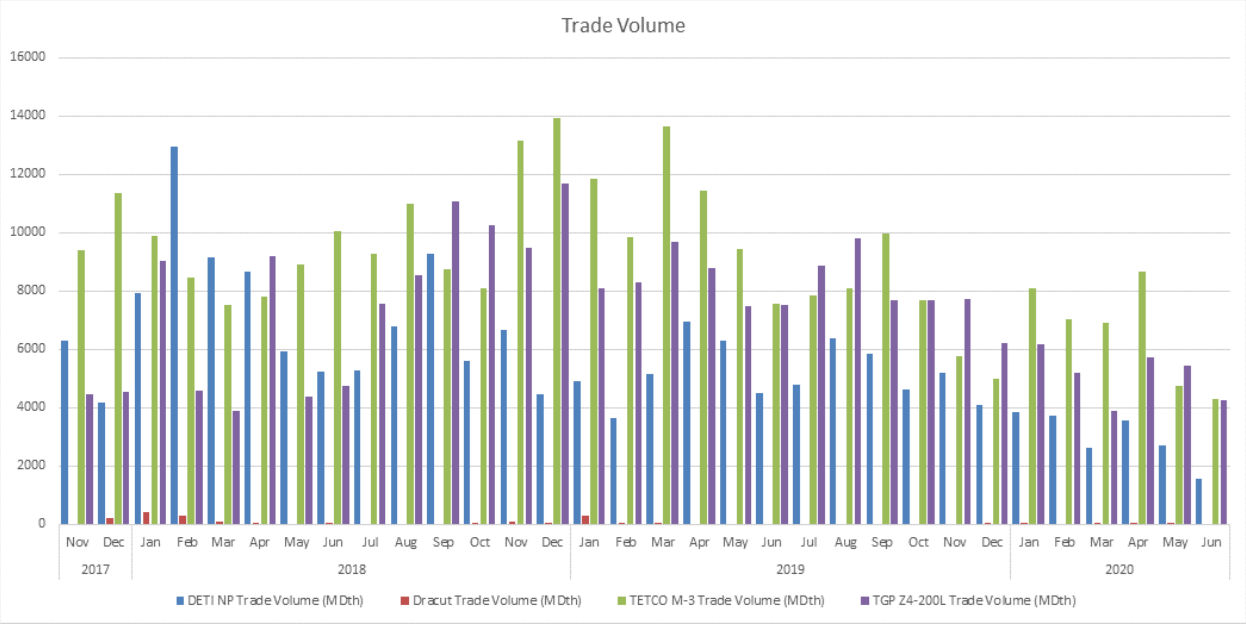
[4] *N.Y. Indep. Sys. Operator, Inc.*, 158 FERC ¶ 61,028 (2017) at P 61, citing *N.Y. Indep. Sys. Operator, Inc.*, 146 FERC ¶ 61,043 (2014) at P 74.

[5] Draft Report at 94.

Zone C Gas Price Index

Dominion North and TGP Zone 4 (200L and Marcellus) are the only two gas price indices under consideration for Zone C that meet the Geography criterion. Based on deals reported to Platts Gas Daily since 2017, TGP Zone 4 (200L) hub also meets the Liquidity criterion. As shown in Fig. 1, during the winter and summer peaks, liquidity on TETCO M3 and TGP Zone 4 (200L) are very closely correlated, and in several months, liquidity for TGP Zone 4 (200L) was superior to TETCO M3.

Fig. 1: Trade Volume for Selected Natural Gas Hubs



Rockland County Gas Price Index

The G-J Locality is bisected by the Hudson River. This cause the gas price used by generators located on the west side of the Hudson River (*e.g.*, generators located in Rockland County), which is the same side of the Hudson River as the Marcellus shale gas supply area, to differ regularly and significantly from the gas price available to generators located on the east side of the Hudson River (e.g., generators located in Dutchess County). For this reason, it is important to select gas price indices for generators for Rockland and for Dutchess Counties that reasonably reflect the price of gas in each location. Based on our discussions with natural gas sellers, we conclude that the Consultants' recommended natural gas indices for Rockland and for Dutchess Counties reasonably and fairly represent the cost of natural gas purchased at those locations.

One stakeholder at an ICAP Working Group meeting suggested that an adder should be added to the TETCO M3 natural gas index price to determine the delivered cost of gas to a generator in Rockland County. The TOs believe that including such an adder would be incorrect and speculative, and would contradict observed price differentials between natural gas purchases in Rockland and in Dutchess Counties. The proposed adder disregards the fact that the price that a generator in Rockland County would be willing to pay for gas will be limited by the availability of transportation capacity on the Millennium pipeline to serve a Rockland County generator. While the Millennium Pipeline has sold all

of its firm natural gas transportation capacity, approximately 42 percent (456,875 MMBtu/day) of this gas transportation capacity was sold to non-Gas Local Distribution Companies ("LDCs"), who use this pipeline capacity to buy natural gas from the Marcellus shale supply area and resell this gas to interested natural gas buyers anywhere between the Marcellus shale supply area and Rockland County using the Millennium pipeline. Even if the proxy generator proposed for Zone G was scheduled to operate for all 24 hours per day, its maximum daily natural gas usage would be approximately 74,000 MMBtu/day,[6] which is far less than the amount of Millennium pipeline transportation capacity (456,875 MMBtu/day) that was purchased by non-Gas LDCs; in almost all cases, the actual daily gas consumption of the proxy generator, which will be dispatched as a peaking unit, would be much less than this. Therefore, the Millennium pipeline has more than enough natural gas transportation capacity to supply the proposed peaking generator if it is located in Rockland County.[7]

Sensitivity Analysis

The TOs believe that it would be helpful for the Consultants to modify the model that is available to stakeholders, so that users could select an alternative gas price index and determine the impact that using that index for a given generator in a given location would have on the monthly reference price ("MRP") calculated for that generator and location.

5. Amortization Period

The Draft Report uses a 17-year amortization period for a fossil peaking plant technology to calculate the proposed MRPs, based on the Climate Leadership and Community Protection Act ("CLCPA") requirement that all electricity be produced by zero-emissions resources as of 2040. While the Draft Report acknowledges that newly constructed fossil fuel units would not necessarily need to retire in 2040, as they could continue operation using alternative fuels, this approach effectively assumes that investors would not assign any value whatsoever to their ability to continue operation after 2039 in any configuration. Certainly, given the potential for fuel conversion, it appears that the value to remain in service after 2039 should be greater than zero. While that value may be difficult to estimate, it should be easier to estimate when the next DCR is performed four years from now. In addition, it will be more important to include an estimate of residual value at that point in time, because using a 13-year amortization period in the next DCR, without any recognition of residual value after 2039, would likely have a material impact on the MRPs. Thus, the 17-year amortization period that the Draft Report proposes to use for fossil fuel units in this DCR should not set a precedent for the next DCR.

The Draft Report also uses a 15-year amortization period for battery storage technologies. Given the combined effect of improvements in battery storage technology and the 2040 deadline set by the CLCPA, battery storage technology may well be the least-cost resource for meeting ICAP requirements when the next DCR is conducted. With that in mind, the TOs are concerned that starting with a 15-year assumed

[6] The H class frame generator proposed in the Draft Report is rated at 347 MW, with a heat rate of 8,890 btu/kWh, so its maximum daily gas consumption is 347 MW × 24 hrs. × 8,890,000 btu/MWh = 74,036 MMBtu.

[7] Additionally, it would not be appropriate to add a lateral pipeline transportation charge to account for the cost of a natural gas pipeline lateral extension, as was proposed by one stakeholder at an ICAP Working Group meeting, because the cost of such a pipeline lateral extension is already included in the capital cost for the proposed generator.

amortization period for battery storage technology is too short. The rationale presented at the May 19 ICAP Working Group meeting for reducing the amortization period for battery storage technology from 20 years to 15 years was on the basis that there is a lack of operational experience with battery storage technology. By the time of the next DCR, however, there should be much more operational experience with battery storage technology. Thus, once more, the TOs do not believe that the 15-year amortization period assumed for battery storage technologies in this DCR should set a precedent for the next DCR.

6. Technological Advancement

Certain stakeholders have asked the Consultants to consider adding a factor to the model that would reflect technological advancement, asserting that if the model does not include such a factor, demand curves will inevitably trend downward over time as lower-cost technologies are introduced. As a result, it is claimed, the ICAP demand curves would not permit entrants to recover the cost of entry.

The historical experience of ICAP demand curves in the NYISO-administered markets does not support this claim. The first DCR produced ICAP demand curves that took effect in the Summer 2005 capability period. The MRPs that applied to the ICAP demand curves for the NYCA and the two Localities that were in effect at that time were: $6.88/kW-mo. for the NYCA, $13.92/kW-mo. for NYC, and $12.74/kW-mo. for Long Island.[8] The MRPs for those demand curves for the Summer 2020 Capability Period are: $10.65/kW-mo. for the NYCA demand curve, $23.31/kW-mo. for NYC, and $21.13/kW-mo. for Long Island (uncollared).[9] Thus, over the intervening 15 years, the NYCA MRP has increased at an average rate of 3.0 percent per year; the NYC MRP has increased at an average rate of 3.5 percent per year; and the Long Island MRP has increased at an average rate of 3.4 percent per year.[10] Each of these rates of increase considerably exceeds the inflation rate over this same time period, which has averaged 1.8 percent per year.[11] Thus, the historical record does not indicate any need to incorporate a factor to ensure that technological advancement does not prevent entrants from recovering their investment, because inflation-adjusted MRPs have been increasing.

7. Effective Property Tax Rate Outside NYC

The Draft Report recommends using an effective property tax rate of 0.9 percent per year for generators outside NYC. However, the TOs believe that a more appropriate rate would be 0.5 percent per year.

While the data underlying this proposed effective property tax rate of 0.9 percent per year is not provided in the Draft Report, it appeared on page 21 of the June 10 presentation to the ICAP Working Group, and

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[8] *N.Y. Indep. Sys. Operator, Inc.*, Compliance Filing, Docket No. ER05-428-002 (May 20, 2005) at 3. All monthly reference prices are stated in terms of dollars per kW-mo. of ICAP.

[9] Nicholas Whitney, Annual Update for 2020-2021 ICAP Demand Curves, Nov. 5, 2019, at 25. Available at https://www.nyiso.com/documents/20142/9062219/2020-2021%20Annual%20Update%20110519%20ICAPWG.pdf/75d4bfe1-8b6e-bfd1-d84e-0ba7bfe80f6c.

[10] Due to the effect of the collar, which will expire at the end of the 2020-21 capability year, the Long Island MRP that applies to the Summer 2020 Capability Period is $17.88/kW-mo. Since the collar will expire at the end of the current Capability Year, it is more appropriate to use the uncollared MRP in this calculation, as it reflects the procedure that will be used to set ICAP demand curves in the future.

[11] The GDP implicit price deflator for the first quarter of 2020 was 113.493, while for the first quarter of 2005, it was 86.391, and $(113.493 / 86.391)^{1/15} - 1 = 1.8\%$. Data obtained from https://fred.stlouisfed.org.

is reproduced below in Table 1. In recognition of the fact that developers of generating facilities generally negotiate agreements for Payments in Lieu of Taxes ("PILOT"), the effective property tax rate for non-NYC generating facilities is based on the amounts that the owners of those facilities have been required to pay under those agreements. As Table 1 shows, the effective tax rate for each project was calculated by dividing PILOT payments by the amount invested in that project. The proposed 0.9 percent per year property tax rate reflects the average of those effective tax rates over the nine generators listed in Table 1, which was 0.94 percent.

Table 1: Effective Property Tax Rates for Generators Outside NYC

Generator	Zone	In-Service Year	Project Amount ($MM)	Total PILOT Payments	Effective Tax Rate Per Draft Report	Inflation Factor	Project Amount ($2019 MM)	Real Effective Tax Rate
WPS Beaver Falls Generation	E	1995	$ 9.0	$ 83,640	0.93%	1.563	14.1	0.59%
Brooklyn Navy Yard	J	1996	$ 370.0	$ 4,684,328	1.27%	1.535	568.0	0.82%
Bethlehem Energy Center	F	2005	$ 400.0	$ 3,816,819	0.95%	1.285	514.1	0.74%
Freeport Generating Station	K	2004	$ 59.5	$ 1,273,101	2.14%	1.325	78.8	1.61%
Empire Generating Project	F	2010	$ 358.0	$ 1,750,000	0.49%	1.169	418.5	0.42%
Saranac Facility	D	1994	$ 166.5	$ 420,000	0.25%	1.596	265.7	0.16%
Athens Generating Station	F	2004	$ 750.0	$ 4,896,986	0.65%	1.325	993.9	0.49%
Independence Station	C	1994	$ 800.0	$ 5,466,666	0.68%	1.596	1,276.8	0.43%
Pinelawn Power, LLC	K	2005	$ 92.0	$ 998,400	1.09%	1.285	118.2	0.84%
For All Generators in Sample								
Mean Effective Tax Rate					**0.94%**			**0.68%**
Median Effective Tax Rate					**0.93%**			**0.59%**
Weighted Average Tax Rate					**0.78%**			**0.55%**
For All Generators Outside Zone J								
Mean Effective Tax Rate					**0.90%**			**0.66%**
Median Effective Tax Rate					**0.81%**			**0.54%**
Weighted Average Tax Rate					**0.71%**			**0.51%**

There are several problems with this calculation that cause the effective property tax rate to be overstated. First, the Brooklyn Navy Yard generator is located in NYC; therefore, it should be excluded because the intent of this calculation is to determine the average PILOT payment made by generators that are located outside NYC. Second, the effective tax rate is calculated by comparing current-year PILOT payments to investments in projects that were made many years earlier. In order for the effective tax rate to be meaningful, both the numerator (PILOT payments) and the denominator (project investment) must be expressed using the same unit of measure—i.e., they must be stated in the same year's dollars. Third, the use of an average effective tax rate gives too much weight to an outlier, such as Freeport Generating Station in this example, whose effective tax rate is almost twice as high as the effective tax rate of any other generator in this table. A better approach is to use either the median tax rate or a weighted-average tax rate (with the weights proportional to the investment in each project).

Table 1 calculates an inflation factor for each facility, which reflects the ratio of the Gross Domestic Product ("GDP") implicit price deflator in 2019 to the GDP implicit price deflator in the year in which that generating facility entered service. It then recalculates the effective tax rate by replacing the denominator with the project investment expressed in terms of 2019 dollars. As Table 1 shows, making this change and eliminating the Brooklyn Navy Yard generator from the sample results in a median

effective tax rate of 0.54 percent per year, or a weighted average tax rate of 0.51 percent per year.[12] Consequently, the TOs believe that the Consultants should use an effective property rate of 0.5 percent per year in their final report.

[12] An alternative approach is (1) to calculate the present value of the PILOT payments that each of these generators would need to make over the life of its PILOT agreement, (2) to find the effective tax rate that is constant in real terms that yields the same present value over the life of the generator's PILOT agreement; and (3) to find the median or weighted average of these effective tax rates.