Comments on "Proposed NYISO Installed Capacity Demand Curves for Capability Year 2017/18 and Annual Update Methodology and Inputs for Capability Years 2018/2019, 2019/2020, and 2020/2021: NYISO Staff Recommendations Initial Draft"

Submitted by the New York Transmission Owners

September 1, 2016

The New York Transmission Owners ("TOs")[1] hereby submit the following comments on "Proposed NYISO Installed Capacity Demand Curves for Capability 2017/18 and Annual Update Methodology and Inputs for Capability Years 2018/2019, 2019/2020, and 2020/2021: NYISO Staff Recommendations Initial Draft" ("Draft Recommendations"), dated August 17, 2016.

1. Natural Gas Index for Proxy Units in Zones C and G

In order to calculate the net energy and ancillary services ("EAS") revenue that a gas-fired proxy unit will earn, it is necessary to determine the gas pipeline from which that unit would purchase gas. As NYISO Staff states in its Draft Recommendations, the recommendations made by the independent consultants retained by the NYISO (Analysis Group, Inc. and Lummus Consultants International, Inc. (jointly, "Consultants")) in their final report[2] "consider[ed] various relevant factors, including geographic location, correlation with electric prices, depth of available historical data, and how representative the gas prices are likely to be going forward."[3] Consideration of these criteria led the Consultants to recommend the use of TETCO M3 gas prices to determine net EAS revenue for proxy units located in Zone C, Iroquois Zone 2 gas prices to determine net EAS revenue for proxy units located in Zones F and G, and Transco Zone 6 gas prices to determine net EAS revenue for proxy units located in Zones J and K.[4] NYISO Staff stated that it "concurs with the Consultants' recommended gas hub selections,"[5] and its recommended ICAP demand curve parameters reflect those recommendations.

The TOs disagree with the Consultants' and NYISO Staff's draft recommendation, believing instead that the recommendations with respect to the proxy units in Zone C and in Rockland County in Zone G are inconsistent with the requirements imposed by FERC and the NYISO's tariff. In order to remain consistent with the tariff, NYISO Staff must modify these recommendations for the gas prices that are used to determine net EAS revenue for these proxy units, recalculate net EAS revenue for those generators using these revised gas prices, and revise its recommended proxy unit selections and monthly reference point prices accordingly.

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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] "Study to Establish New York Electricity Market ICAP Demand Curve Parameters" ("Consultants' Report"), Aug. 16, 2016.

[3] Draft Recommendations at 25.

[4] *Id.*, Table 11.

[5] *Id.* at 26.

The gas cost for a proxy unit in a given location should reflect the cost that a unit at that location would incur to purchase gas. Since a Zone G unit in Rockland County, which is on the west side of the Hudson River, cannot obtain gas from the Iroquois pipeline, the cost that such a unit would incur to purchase gas from Iroquois does not matter, because Iroquois cannot supply that unit. Similarly, a Zone C proxy unit cannot obtain gas from the TETCO pipeline. When discussing the geographical proximity of pipelines to generators, the Consultants claimed that "gas indices [might] fail to fully capture variation in pricing within geographic load zones…."[6] Even if true, this provides no justification for basing net EAS revenue for a proxy unit on gas prices for a pipeline that cannot serve that unit. Rather, it would indicate the need for some sort of adjustment to the cost of gas on the relevant pipeline. In any event, the Consultants' Report provides no evidence indicating the need for any such adjustment, since it does not demonstrate that the price index for a given pipeline does not actually reflect the cost that a proxy unit in a given zone actually would have incurred to purchase gas in the three-year historical period. As such, NYISO Staff should deviate from the Consultants' recommendations in this regard, and should instead recommend ICAP demand curves based on net EAS revenues for generators based on the natural gas prices at which each proxy unit would practically obtain gas.

This is further supported because following the Consultants' recommendations for the proxy units in Zone C and in Rockland County in Zone G would cause NYISO Staff's recommendation to violate its tariff. Specifically, tariff changes that FERC accepted in July 2016 make it clear that historical gas prices are to be used when calculating net EAS revenue. As the NYISO stated when it filed these changes, under this new methodology, net EAS revenue is "based solely on actual prices and costs,"[7] which "is intended to increase the transparency of the resulting revenue projections.…"[8] Accordingly, the tariff now provides that net EAS revenue will be determined using a model that "determine[s] whether each peaking plant could earn positive net revenue by producing Energy in each hour **over the prior 36 month period**,"[9] and that "[t]he applicable fuel cost for the peaking plant for Load Zone *z* … will be based on the applicable daily spot price for Load Zone *z*…"[10] Consequently, it does not matter whether gas prices from a given pipeline are expected to be representative of future gas prices at given location or not: the Consultants should not have considered this criterion in their recommendations. NYISO Staff must reconcile this in its final recommendation. If the Consultants' prognostications are borne out, and gas prices on the west side of the Hudson River in Zone G move toward the Iroquois Zone 2 price in the long run, or gas prices in Zone C move toward the TETCO M3 price in the long run, those increases in gas prices will be included in the calculations of net EAS revenue in future years.[11] But this does not provide

[6] Consultants' Report at 74.

[7] *N. Y. Indep. Sys. Op.*, Proposed Services Tariff Revisions to Implement Enhancements to the Periodic Reviews of the ICAP Demand Curves, Docket No. ER16-1751-000 (filed May 20, 2016) at 5.

[8] *Id.* at 6.

[9] Services Tariff, Section 5.14.1.2.2.2 (emphasis added).

[10] *Id.*

[11] The Consultants also provided no analysis supporting their contention that price differences between pipelines would be resolved solely through increases in the price at the lower-priced pipeline. Such differences can also be resolved through decreases in the price at the higher-priced pipeline. In our view, a decrease in the Iroquois Zone 2 price is actually more likely than an increase in the Millennium East price, because Millennium has ample supply to sustain a lower price compared to Iroquois Zone 2 for the foreseeable future, even assuming additional demand/interconnection on the pipeline.

any basis for basing net EAS revenue on gas prices that do not reflect the amount that the Zone C and the Zone G Rockland County proxy units would have paid for gas at their respective locations during the three-year period ending August 31, 2016.

Given the locations of the various pipelines, the TOs believe that NYISO Staff should re-run the net EAS revenue model over the three-year historical period for a proxy unit in Zone C that would have purchased its gas at the Dominion North price, as that would ensure that its net EAS revenue reflects the historical cost that a generator that could have been practically constructed in that location would have incurred to purchase gas. This would also be consistent with assessments of the profitability of generation in Zone C performed by the NYISO's Market Monitoring Unit ("MMU"), which were based on Dominion North gas.[12] NYISO Staff should then base its final ICAP demand curve recommendations on the output of that model, and comparison of the monthly reference point price for a Zone C proxy unit using Dominion North gas to the monthly reference point price based on a Zone F proxy unit using Iroquois Zone 2 gas. Since we expect the former to be less than the latter, this should cause NYISO Staff to base its recommended ICAP demand curve for the New York Control Area ("NYCA") on the Zone C proxy unit.

For similar reasons, the TOs recommend that NYISO Staff re-run the net EAS revenue model over the three-year historical period for a proxy unit in Rockland County in Zone G that would have purchased its gas at the Millennium East price. The TOs do recognize one limitation with this request, and present an option for resolving it. The historical gas price series for this pipeline does not cover the entire three-year period, since the three-year period begins September 1, 2013, and SNL (which is the source of the gas prices used in the net EAS revenue model) did not publish Millennium East prices before March 2014. Given that limitation, the TOs believe that for the limited purpose of determining net EAS revenue for the Zone G Rockland County proxy unit that would be used to determine the monthly reference point price using that unit for the 2017-18 capability year, it would be reasonable for the NYISO to re-run the net EAS revenue model for the **two-year** period beginning September 1, 2014, and ending August 31, 2016, for a proxy unit in Rockland County in Zone G purchasing gas at the Millennium East price during that time period. That approach would permit the proxy unit to reflect the cost that such a generator actually would have incurred to purchase gas over the time period for which the relevant data are available.[13]

Alternatively, the NYISO could use the TETCO M3 gas price, which is consistent with the 2013 ICAP demand curve reset assumptions (in which TETCO M3 was used for the Zone G Rockland County proxy

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For similar reasons, it is not clear that the Millennium East and Dominion North prices will approach the TETCO M3 price, as the Consultants assumed they would. During the price spikes in early 2014 and 2015, the increase in gas prices on the TETCO pipeline was actually somewhat **larger** than the increase in Zone C electricity prices (measuring each in percentage terms). *See* Consultants' Report at 75, Fig. 11. It would be reasonable to expect that, in the long-run equilibrium, the TETCO price would increase by a smaller amount than was observed in the 2014 and 2015 price spikes, even before considering the impact of competition between TETCO and other pipelines that may further reduce the amount by which TETCO prices spike.

[12] David B. Patton et al., "2015 State of the Market Report for the New York ISO Markets" ("2015 SOM Report"), May 2016, at A-23, Table A-2.

[13] We recommend starting this analysis on September 1, 2014, rather than March 2014, to ensure that the same number of days in each season are included in the initial calculation of net EAS revenue. We do not believe that limiting this calculation to two years would be appropriate for the 2018-19 capability year or subsequent capability years, since three years of Millennium East data will be available for the purposes of setting those ICAP demand curves.

unit, because insufficient Millennium East gas price data was available in 2013[14]) as well as the assumptions made by the MMU regarding the cost of gas on the west side of the Hudson River in Zone G,[15] to determine net EAS revenue for the Zone G Rockland County proxy unit. Again, NYISO Staff should then base its final ICAP demand curve recommendations on the output of that model. Since we would expect the monthly reference point price based on a Zone G Rockland County proxy unit using either of the gas price series described above to be less than the monthly reference point price based on a Dutchess County proxy unit using Iroquois Zone 2 gas, we expect this would cause the NYISO to base the ICAP demand curve for the G-J Locality on the Zone G Rockland County proxy unit.

2. Dual Fuel Capability for Proxy Units in Zones C, F and G

In its review of the Consultants' recommendations, NYISO Staff properly noted that "In Load Zones C and F, there is a lack of mandatory dual fuel requirements or other factors (such as a need for siting flexibility by assuming interconnections to the [local distribution company ('LDC')] system which would mandate dual fuel technology. Combining the lack of a mandatory dual fuel requirement with the current status of general gas availability in these areas, and the fact that estimated incremental net EAS revenues for dual fuel units in Load Zones C and F do not offset the increased capital costs of such capability over the historic period analyzed…, the NYISO has concluded that, for this [ICAP demand curve reset], a gas only peaking plant in Load Zones C and F remains reasonable."[16]

The TOs fully concur. However, the same rationale should compel NYISO Staff to conclude that the proxy units for Zone G also should not have dual fuel capability. Just as in Zones C and F, generators in Zone G that are not purchasing gas from LDCs are not required to have dual fuel capability; and just as in Load Zones C and F, the effect of dual fuel capability on net EAS revenues for dual-fuel proxy units in Load Zone G was less than the increased capital costs of such capability over the three-year historic period.[17] Consequently, developers will neither be required nor will find it profitable in the short run to include dual-fuel capability in generators built in Zone G.

The TOs understand that NYISO Staff has nevertheless recommended that the Zone G proxy unit have dual fuel capability because "Load Zone G is a more limited geographic area containing two gas LDCs, each with multiple city gate connections."[18] NYISO Staff goes on to note that "[t]he ability to site a generating facility within the LDC system intuitively offers flexibility."[19] While this is true, it does not necessarily lead to the conclusion that developers of new generation in Zone G would be willing to incur

[14] NERA Economic Consulting, "Independent Study to Establish Parameters of the ICAP Demand Curve for the New York Independent System Operator" ("2013 ICAP Demand Curve Report"), Aug. 2, 2013, at 67, n. 50.

[15] 2015 SOM Report at A-23, Table A-2. The MMU's analysis of the profitability of generation in Zone G was based on 50 percent of the Iroquois Zone 2 price, reflecting the cost of gas on the east side of the Hudson River, and 50 percent of the TETCO M3 price, which was intended to represent the cost on the west side of the Hudson River.

[16] Draft Recommendations at 8 (footnotes omitted).

[17] The monthly reference point price for the gas-only Siemens 5000F5 is $14.22/kW-mo. in Dutchess County and $14.41/kW-mo. in Rockland County, compared to $14.96/kW-mo. in Dutchess County and $15.20/kW-mo. in Rockland County for the dual-fuel unit. Consultants' Report at 96, Table 41A.

[18] Draft Recommendations at 8, n. 9.

[19] *Id.*

the cost associated with dual-fuel capability in order to have that flexibility, especially if that flexibility is of little value. And the evidence suggests that this flexibility, indeed, has little value: To the knowledge of the TOs, there are **no** projects in the queue in these areas that plan to purchase their gas from LDCs. Options that are unlikely to be exercised have little value, and developers will not be willing to incur significant costs to obtain such options.[20]

The Consultants also assert that the proxy units should have dual fuel capability because "a developer would likely view the addition of dual fuel capability favorably in light of reasonable expectations of net changes in New York State's reliance on natural gas in the coming years…."[21] However, their report contains no analysis to substantiate the claim that these considerations would cause entrants to opt for dual-fuel capability now, even though it is expected to be unprofitable in the short run. Therefore, this argument is purely speculative.

The TOs are aware that certain stakeholders have argued that proxy units should be required to have dual fuel capability because the NYISO may adopt measures in the future that would either require dual fuel capability for new generators statewide. Alternatively, the NYISO may adopt other market changes that might reduce capacity payments that are available to the developers of gas-only generators. However, no such proposals are currently under consideration in the stakeholder process. As such, it would be premature to base the ICAP demand curves on the mechanisms that have yet to be fully developed, much less approved by stakeholders, the NYISO Board, or FERC.

3. Selective Catalytic Reduction for Proxy Units in Zones C, F and G

As noted above, NYISO Staff is recommending that proxy units throughout the state have selective catalytic reduction ("SCR"), even though Zones C, F and parts of Zone G are outside of the downstate non-attainment area for the eight-hour ozone National Ambient Air Quality Standard. NYISO Staff justifies this recommendation as follows: "[T]he annual NOx emissions from a unit without SCR is 2.5 times greater than the NOx emissions of a unit with SCR. Unlike the last reset, the uncontrolled unit does not represent the configuration that minimizes NOx emissions to the maximum extent practicable. Therefore, it appears that such a unit would be unable to achieve compliance with the findings required by the Siting Board for issuance of a Certificate of Environmental Compatibility and Public Need pursuant to Article 10."[22]

Pointing to the challenges of getting siting permission under Article 10 without the installation of SCR as a basis for the inclusion of such costs in these locations is speculative at best. There is no express requirement for SCR in Article 10, nor precedent suggesting that such equipment is required outside of the non-attainment area. Until such equipment is a requirement, including such costs in the ICAP demand curves for the NYCA and the G-J Locality introduces costs for consumers with no expected environmental benefits. Such an outcome is unjust and unreasonable, and as such, NYISO Staff should remove this assumption when finalizing its recommendations.

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[20] It is not also clear that dual-fuel units will actually have additional siting flexibility: Dual-fuel units may need to choose certain locations to ensure that oil can be delivered to it cheaply, a concern that would not be relevant for gas-only units.

[21] Consultants' Report at 33.

[22] Draft Recommendations at 11.

4. An Orange County Proxy Unit Evaluation Further Supports the Need to Remove SCR and Use the Millennium East Gas Prices to Calculate Net EAS Revenues in Zone G

Above, the TOs recommended that the NYISO use Millennium East gas prices to calculate net EAS revenue for generators in Zone G on the west side of the Hudson River, as well as removing SCR for such a proxy unit if it is outside the ozone nonattainment area. Adopting these recommendations leads to the conclusion that a proxy unit in Orange County should be considered as a candidate for setting the ICAP demand curve for the G-J Locality. Since it is on the west side of the Hudson River, it would have access to the less expensive Millennium gas and (in some locations in Orange County) would not be required to have SCR. Both in comments submitted on May 18, 2016, and in the comments on the draft version of the Consultants' report that were submitted on July 8, 2016, the TOs asked the Consultants to consider basing the ICAP demand curve for the G-J Locality on a proxy unit in Orange County, but the Consultants declined to include in its final report the details of its limited evaluation, providing only a footnote stating: "The total capital cost estimate for the [proxy unit] would be about 1 percent lower if the plant were located in Orange County rather than Rockland County, which is not a materially significant difference."[23] Given the likelihood that the least-cost location for the G-J Locality is actually in the part of Orange County outside the ozone nonattainment area, the TOs believe that the NYISO should provide the details of the Consultants' analysis leading to this conclusion.

5. Property Tax Rate for Proxy Units outside New York City

In our comments on the draft version of the Consultants' report, the TOs pointed out that following the NYISO's 2013 ICAP demand curve reset filing, the TOs filed testimony demonstrating that a property tax rate of 0.5 percent of capital expenditures was consistent with the rates paid by developers of three generators (Athens, Bethlehem, and Empire) over the 20-year period covered by each of their PILOT agreements.[24] Therefore, if the amortization period is set at 20 years (as NYISO Staff proposes to do), the property tax rate for generators outside New York City should be set at 0.5 percent, instead of the 0.75 percent rate proposed by the Consultants.

In their final report, the Consultants maintained the 0.75 percent rate. However, they provided additional explanation as to the justification for that rate. They explained that the 0.75 percent rate "was found to be in a range that is compatible with current PILOTs based on a review of data available through the New York State Comptroller Office,"[25] adding in a footnote that the "median value of these rates was 0.83 percent; weighted by PILOT payment, the average value was 0.8%."[26] The Consultants' August 10, 2016 presentation to the ICAP Working Group provided additional detail regarding this analysis, including a

[23] Consultants' Report at 37, n. 26.

[24] *N.Y. Indep. Sys. Op., Inc.*, Motion for Leave to Answer and Answer of the New York Transmission Owners, Docket No. ER14-500-000 (filed Jan. 10, 2014), Aff. of Michael D. Cadwalader at ¶¶ 57-67 and App. B.

[25] Consultants' Report at 46.

[26] Consultants' Report at 46, n. 31.

table listing the generators examined by the Consultants and the payments made by each such generator.[27] In the Draft Recommendations, NYISO Staff indicated that it continues to evaluate this issue.[28]

The additional detail provided by the Consultants in their final report and in the ICAP WG Presentation has permitted us to identify several flaws in the Consultants' analysis. First, the Consultants' analysis compared PILOT payments made in 2014 to capital expenditures made years earlier, without correcting for inflation in the intervening time period. As a result, the analysis compared apples and oranges.[29] Both the PILOT payment and the capital expenditures must be stated in terms of the same year's dollars in order for the comparison to be valid. This error caused the Consultants to overstate the effective tax rate associated with the PILOT agreements.

Second, the Consultants' analysis compared a single year's payment under PILOT agreements to the capital cost incurred when building the plant. Payments under PILOT agreements typically escalate over time, even after adjusting for inflation. In such cases, focusing on a single year that is late in the period covered by the PILOT agreement will overstate the effective tax rate, as it ignores the benefits of having paid lower rates earlier in the PILOT agreement's lifespan, while focusing on a single year that is early in the period covered by the PILOT agreement will have the opposite effect. The correct approach, which was used the TOs' analysis, is to determine a levelized payment that is constant in real (i.e., inflation-adjusted) terms and which produces the same net present value as the entire stream of payments under a PILOT agreement. That is consistent with the general methodology that the Consultants used to determine the monthly reference point prices for the ICAP demand curves. In this case, this error once more caused the Consultants to overstate the effective tax rate associated with the PILOT agreements.

Therefore, NYISO Staff should not place any reliance upon the Consultants' analysis unless these errors are corrected. However, even if those errors are corrected, it is unclear whether the Consultants' analysis would shed any additional light on the effective tax rate that the developer of a generator would expect to pay under a PILOT agreement entered into today. The Consultants added eight generators to the three units that the TOs used in their analysis, but with the exception of two small generators, all of the generators added by the Consultants were built in the 1990s, whereas all of the generators used by the TOs were built in this century. PILOT agreements that were entered into more recently should be more representative of the amount that a generator would be expected to pay under a PILOT agreement entered into today, so adding these older units to the analysis may make the results of the analysis less useful. Indeed, our understanding is that the effective tax rate that is being paid under the PILOT agreement for one unit that is under construction is considerably less than the 0.5 percent rate proposed here.[30]

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[27] Analysis Group, "Review of Stakeholder Comments and Anticipated Updates to Final Report," August 10, 2016 ("ICAP WG Presentation") at 18.

[28] Draft Recommendations at 24.

[29] FERC has previously emphasized the importance of correctly accounting for inflation to permit "apples-to-apples" comparisons. *See, e.g., N. Y. Indep. Sys. Op.*, 139 FERC ¶ 61,244 at P 60 (2012).

[30] *See, e.g.*, Times Herald-Record, *Construction of $900M Power Plant in Wawayanda Set to Start this Year* (updated January 31, 2015) available at: http://www.recordonline.com/article/20150131/NEWS/150139896.

Consequently, if NYISO Staff continues to recommend a 20-year amortization period, then the TOs believe that the property tax rate for proxy units outside New York City should be set at 0.5 percent, which, as our earlier analysis showed, is consistent with that amortization period.

6. Construction Labor Cost

In their report, the Consultants explained that construction labor costs were based on data published by the New York State Department of Labor ("DOL").[31] However, in the discussion of labor costs that are included in fixed O&M charges, they stated that DOL wage rates were "inconsistent and not necessarily representative of the current wage rates."[32] For that reason, the Consultants decided to base fixed O&M charges on wage rates from the 2013 ICAP demand curve reset, adjusted for inflation, rather than DOL data. The Consultants explained that they decided to rely on DOL data in one case, and not in the other, because "[t]he data used on developing the capital investment cost estimates represents union construction labor rates by county … [which] does not raise the same concerns [the Consultants] noted with respect to employer reported information underlying the DOL data regarding wage rate information for power plant workers."[33]

This is not a sufficient explanation for the decision to rely on DOL data in one case and not in another. Consequently, ICAP demand curves that are based on construction labor costs derived in this manner may not be just and reasonable. The TOs recommend that NYISO Staff ask the Consultants to provide a better justification of their decision to rely on DOL data for construction labor costs.

7. Productivity Factors

The approach used by the Consultants to estimate plant construction cost multiplied "ideal man-hours" by a productivity factor, which is intended to account for "locations where productivity is reduced due to a variety of factors, including weather, union rules, construction parking and laydown space limitations, etc."[34] The Consultants used productivity factors of 1.45 for New York City, 1.4 for Long Island, and 1.2 elsewhere in the state.

These factors are higher than the productivity factors used in the last ICAP demand curve reset, which were 1.4 for New York City, 1.35 for Long Island, and 1.1 elsewhere in the state, which were based on published data.[35] While the TOs sought an explanation of this difference both in comments that were submitted on the draft version of the Consultants' report and in comments that were submitted in May, the only explanation that the TOs have received outside of the limited detail in the Consultant's final report was a verbal response to a question posed at the June 15 ICAP Working Group meeting, which simply stated that the productivity factors used in the Draft Report are consistent with the Consultants' experience, without providing any additional support for this conclusion.

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[31] Consultants' Report at 36.

[32] *Id.* at 43.

[33] *Id.*

[34] *Id.* at 37.

[35] 2013 ICAP Demand Curve Report at 43.

Once more, this is not a sufficient explanation for the decision to modify the productivity factors. Consequently, ICAP demand curves that are based on construction costs derived in this manner may not be just and reasonable. The TOs recommend that NYISO Staff ask the Consultants to provide a better justification of their decision to modify these productivity factors. In the absence of such an explanation, the TOs recommend that NYISO Staff base its recommended ICAP demand curves on calculations that use the productivity factors from the last ICAP demand curve reset.

8. After-Tax Weighted Average Cost of Capital and Return on Equity

The NYISO has the burden to prove that the after-tax weighted average cost of capital ("ATWACC") used in establishing the final ICAP demand curves is just and reasonable, a burden far from met by solely relying on the Consultants' recommendation. The Consultants' calculation of the ATWACC is based in part on their assumption of a return on equity ("ROE") of 13.4 percent. However, the Consultants have only provided a very general explanation of the determination of this ROE, relying on sources that are potentially irrelevant for New York power plant construction, and generalizations of what it believes to be the investment landscape in the state.

Their report begins by stating that the average ROE for publicly traded independent power producers is 10.5 percent.[36] Then, it notes that studies conducted by the California Energy Commission and the National Energy Technology Laboratory have estimated ROEs of 14.47 and 15.5 percent, respectively.[37] Next, the report states that "ROEs for project finance range from about fifteen to twenty percent since 2003."[38] The report states that its 13.4 percent recommendation "reflects a balance" between these values. But there are many such values that could reflect such a balance. Despite repeated inquiries, the Consultant have yet to explain how, given all of the potential values for the ROE they could have chosen that would have provided such a balance, they settled on 13.4 percent.

The Consultants also recommend assumptions that lead to an ATWACC of 8.6 percent outside NYC and 8.36 percent within NYC. This is higher than the ATWACCs used for PJM and ISO New England (8.0 percent) as well as the ATWACC used in the last ICAP demand curve reset (8.4 percent outside NYC). The Consultants explain the first difference by stating, "[D]evelopers within the NYISO region may face greater project-specific risk."[39] Similarly, the explanation of the difference between the current ATWACC and the ATWACC from the last reset refers to "potential changes in project-specific risks."[40] However, only undiversifiable risks are relevant to determining the ROE that feeds into the ATWACC. If these "project-specific risks" are diversifiable risks, they should not affect the ATWACC.

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[36] Consultants' Report at 59. We note that the publicly traded generating companies included in this average all had more highly leveraged capital structures than the 55/45 debt-to-equity ratio assumed by the Consultants. Their ROEs would have been lower if their capital structures had been less leveraged.

[37] *Id.* at 60.

[38] *Id.*

[39] *Id.* at 62.

[40] *Id.*

NYISO Staff accepted the Consultants' recommendations regarding the financial parameters used to calculate set the ICAP demand curve.[41] However, the TOs believe that in each of these cases, additional explanation and justification is necessary if the NYISO is to meet its burden of demonstrating that its tariff filing is just and reasonable.

9. Back-Up Fuel Requirements

NYISO Staff concluded that "the fuel oil storage incorporated in the peaking plant configuration (96 hours) is consistent with Con Edison requirements, [the Consultants'] experience, and the results of the net EAS [revenue] model."[42] Consequently, NYISO Staff did not recommend any changes to the Consultant's proposed back-up fuel requirement for dual-fuel proxy units.

However, the TOs believe this requirement, which is more than the back-up supply required in the 2013 ICAP demand curve reset,[43] is excessive. In New York City, Con Edison requires a five-day back-up fuel supply, but the requirement only applies in the winter, which is equivalent to a 2.5 day supply year-round. Therefore, the TOs recommend reducing this requirement to 2.5 days.[44]

10. Real-Time Natural Gas Premium/Discount for the Proxy Unit in NYC

The net EAS revenue model assumes that if a generator in New York City purchases additional gas in intra-day gas markets to generate more energy than it was scheduled to produce in the day-ahead market, it would pay a 20 percent premium relative to the day-ahead price for that additional gas. If, on the other hand, such a generator has more gas than it needs, it would sell the excess gas at a 20 percent discount relative to the day-ahead price of gas.[45]

In our experience, this premium/discount is about $0.05/Dth to $0.10/Dth, no matter the day-ahead price (e.g., it is the same if the day-ahead price was $2/Dth or $50/Dth). Therefore, the TOs recommend that NYISO Staff lower the real-time premium used for NYC in the analysis to a more reasonable level of 5 to 10 percent, which is comparable to the 10 percent intra-day premium used for Zones C, F and G.

11. LDC Gas Transportation Charges for Proxy Units in Zones C, F and G

As noted, the TOs are not aware of any projects in the queue in Zones C, F or G that have proposed to connect to an LDC rather than directly connect to an interstate pipeline. Nevertheless, the Consultants' analysis included a fuel cost adder of $0.27/Dth for the LDC transportation of natural gas.[46] NYISO Staff's final recommendations should be based on the output of an net EAS revenue model that excludes this adder.

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[41] Draft Recommendations at 24.

[42] *Id.* at 27-28.

[43] 2013 ICAP Demand Curve Report at 46.

[44] We also note that this supply only needs to be available. It does not need to be on site or in inventory. Therefore, even this requirement may overstate on-site fuel back-up requirements.

[45] Draft Recommendations at 29.

[46] Consultants' Report at 80, Table 35.

12. Stating Net EAS Revenue and Fixed O&M Costs in Dollars per Kilowatt-Year

The spreadsheet that the Consultants used to calculate monthly reference point prices for each ICAP demand curve states that net EAS revenues and fixed O&M costs are measured in terms of $/kW-year, but it does not say how the number of kW was determined. The model uses several different measures of capacity, and in order to be consistent with the other variables in the model, net EAS revenue and fixed O&M costs must be calculated by dividing annual net EAS revenue and annual fixed O&M costs by "DMNC ICAP." However, there is no way to verify that this is the way the Consultants actually performed this calculation, and the question on this point in our comments on the Consultants' Draft Report was disregarded. Therefore, we ask that NYISO Staff verify that the Consultants calculated these variables in the manner described above.

13. Conversion from 2016 Dollars into 2017 Dollars

In the consultants' draft report, gross CONE was stated in 2016 dollars, whereas in their final report, gross CONE was stated in terms of 2017 dollars. Therefore, the values for Gross CONE that appear in the final report are slightly higher than the values in the draft report. However, Gross CONE seems to have increased by about 1.78 percent for each proxy unit, while the escalation value given in the final report for the Siemens 5000F5 is only 1.51 percent.[47] The TOs ask NYISO Staff to ensure that the Consultants used the correct escalation factors to translate 2016 dollars into 2017 dollars.

[47] *Id.* at 102, Table 43.