

Comments of the Concerned Stakeholders
on NYISO Staff Initial Recommendations for
Proposed ICAP Demand Curve Parameters

INTRODUCTION and BACKGROUND

The New York State Department of Public Service (DPS), New York State Energy Research and Development Authority, City of New York, and Multiple Intervenors (collectively, the Concerned Stakeholders) hereby submit these comments on the New York Independent System Operator, Inc. (NYISO) Staff Recommendations Initial Draft (NYISO Staff Initial Recommendations) regarding the methodology and inputs for the proposed Installed Capacity (ICAP) Demand Curves for Capability Years (CY) 2018/2019, 2019/2020, and 2020/2021, as well as proposed ICAP Demand Curves for CY 2017/2018. The Staff Initial Recommendations address proposals advanced by Analysis Group, Inc. and Lummus Consultants International, Inc. (collectively, the Consultants) in their Study to Establish New York Electricity Market ICAP Demand Curve Parameters (DCR Report), which was issued to stakeholders on August 17, 2016.

As NYISO Staff is aware, the Concerned Stakeholders recently submitted joint comments on an earlier version of the DCR Report. Within the joint comments, the Concerned Stakeholders objected to the recommendations proposed by the Consultants. After receipt of the comments submitted, subject to one notable exception, NYISO Staff largely adopted all

recommendations proposed by the Consultants and opposed by the Concerned Stakeholders.

Given that NYISO Staff generally agrees with the rationale underlying the Consultants' recommendations, the Concerned Stakeholders will not repeat all of the concerns discussed at length in comments previously submitted in order to avoid unnecessary repetition. However, the Concerned 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 objections to NYISO Staff's recommendations regarding the inclusion of dual fuel capability and selective catalytic reduction (SCR) technology on certain proxy peaking units.¹ In addition, the Concerned

¹ The City notes that it shares the State and NYISO goals of ensuring system reliability and reducing emissions. The City, however, believes that the NYISO's Services Tariff constrains the Demand Curve reset process to identifying the most economic proxy peaking unit that can be developed. The Demand Curve Reset process, therefore, is not the appropriate platform for addressing whether or not an actual generation project proposal should include emissions controls incremental to those required by rule or law. To the extent that dual fuel capability has been recommended because of potential reliability benefits, the Demand Curve Reset process similarly is not the appropriate forum to evaluate fuel assurance solutions. The exercise remains one of identifying the most economic proxy peaking unit that can be developed. The City acknowledges the broad policy goals that the NYISO is attempting to achieve and shares in such goals. However, requiring a proxy peaking unit to include emissions controls and dual fuel capability when not required by rule or law may

Stakeholders object to NYISO Staff's agreement with the Consultants' choice of gas trading hub for modeling purposes for proxy peaking plants located in Zones C and G (Rockland).

DISCUSSION

1. NYISO Staff And The Consultants Failed to Demonstrate That Proxy Peaking Units Located in Zone G Should Include 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...."² A gas-only peaking unit necessarily will have lower fixed costs than an identical unit with dual fuel capability.

In the DCR Report, however, the Consultants recommend that the proxy peaking unit located in Zones C, F, and G include dual fuel capability. 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

have the unintended consequence of increasing capacity costs to consumers and having consumers pay for a benefit that may not be received.

² Services Tariff at §15.4.1.2.2.

to have an alternate fuel. The Consultants justify the assumption that a proxy peaking plant would forego interconnection with an interstate pipeline based on a balancing of "economic tradeoffs," increased siting flexibility, and concern that gas-fired generation will comprise an increasing percentage of the State's supply portfolio. The Consultants' recommendation creates the assumption that any new generating facility built in Zones C, F, and G will have dual fuel capability and, therefore, should be compensated for the incremental cost of such capability.

NYISO Staff rejected this recommendation with respect to Zones C and F, finding that the proxy peaking plants in those locations should be exclusively gas-fired without dual fuel capability. NYISO Staff appropriately recognized in its Initial Recommendations that the incremental cost of such capability in Zones C and F was not economically-justified, and no law, rule, or regulation would require the proxy peaking unit in those Zones to include dual fuel capability.

NYISO Staff, however, adopts the Consultants' recommendation that a proxy peaking unit located in Zone G should be assumed to include dual fuel capability. This means the NYISO accepts the assumptions that (i) a peaking plant developer would assume the incremental cost of including such technology despite the fact that such investment is not

required, and (ii) including the cost of dual fuel capability in the reference price for a proxy peaking unit would lead to the development of a dual-fuel peaking unit. NYISO Staff accepts the Consultants' rationale for these findings and proposal, and focuses its discussion of this recommendation on the unquantified benefit of increased siting flexibility, incremental net energy and ancillary services (EAS) potentially realized from operation on the alternate fuel, and reliability benefits potentially associated with dual fuel capability.

As detailed herein and in the Concerned Stakeholders' prior comments, the subjective consideration of a hypothetical developer's decisionmaking process presented in the DCR Report and NYISO Staff Initial Recommendations does not provide a compelling basis to conclude a peaking unit would include dual fuel capability. As to the "economic tradeoffs," the Consultants estimated the costs and revenues associated with dual fuel capability. To date, however, neither the Consultants nor NYISO Staff have presented a quantitative economic analysis that justifies the incremental cost of dual fuel capability or demonstrates that customers would realize a net benefit from such capability. Indeed, to date there has been no analysis evaluating the total costs and benefits of dual fuel capability from the customer perspective. We do know, however, that incumbent generators will benefit from the higher prices that

will result from adding dual fuel capability to proxy units that do not require it.

The Consultants speculate that incremental revenues from oil-fired generation could be substantial if certain events occur in the future. They do not, however, fully discuss the likelihood of such events or explain adequately why a developer would assume the risk of material incremental costs to chase indeterminate and uncertain incremental profits in the future. The subjective consideration of "economic tradeoffs" falls short of the analysis that a developer (and its financiers) would likely rely on for investment decisions.

The analysis of "economic tradeoffs" failed to give adequate consideration to issues that would lead a peaking unit developer to instead forego the material incremental cost of dual fuel capability when possible. In addition to countervailing considerations identified in prior comments, NYISO Staff should recognize that its recent analysis of preparedness for the 2015-2016 winter suggests that a peaking unit developer would not assume the incremental cost of dual fuel capability. There, NYISO Staff stated that NO_x emissions restrictions, decreasing refinery capability in the Northeast, and upcoming carbon reduction targets under the Clean Power Plan

are making it "more challenging for generation to burn oil."³ These considerations also undermine the assertion that reliability benefits potentially associated with dual fuel capability weigh in favor of developing peaking units with that capability. Moreover, NYISO Staff and the Consultants assert that potential reliability benefits would be important to balance a supply portfolio with increasing reliance on gas after certain nuclear generation and other facilities retire. It now appears, however, that those nuclear units will not retire.

With respect to siting flexibility, NYISO Staff and the Consultants assume that interconnecting with an LDC system would expand the geographical flexibility for power plant siting, while potentially minimizing the costs to obtain natural gas and electrical interconnection. Neither NYISO Staff nor the Consultants estimate the cost of electrical interconnection for a proxy peaking plant interconnected with an interstate gas pipeline, or compare those costs to a proxy peaking plant that interconnects with a LDC system. More broadly, neither NYISO Staff nor the Consultants present a quantitative analysis that evaluates the potential costs and benefits of a proxy unit that

³ Winter 2015-2016 Preparedness, FERC Commission Meeting (dated September 17, 2015) at 11. Additional considerations that would support the developer's decision to build a gas-only peaking plant are described in the Concerned Stakeholders' prior comments.

interconnects with a LDC system rather than an interstate pipeline. This incomplete analysis thus fails to demonstrate any compelling factors that could lead a developer to choose a LDC interconnection over an interstate pipeline interconnection.

There has been no claim that a peaking unit connected to an interstate pipeline could not be developed in Zone G. Although statements were made during the stakeholder process that electric interconnection costs would increase if the proxy peaking unit avoids the LDC system by interconnecting with an interstate pipeline, no data has been produced to corroborate this assertion.

In a recent analysis of the CPV Valley Energy Center (CPV Valley) generation project, the Market Monitoring Unit (MMU) concluded in relevant part that CPV Valley "will be situated in a location where it will likely enjoy significant fuel cost advantages over other generators in the same wholesale electric market zone."⁴ Significantly, the MMU also concluded that "[p]rice spreads between natural gas trading hubs have increased considerably since 2010, and this is likely to drive future generation investment towards locations that are upstream of gas pipeline congestion while being downstream of electricity market

⁴ Assessment of the Buyer-Side Mitigation Exemption Test for the CPV Valley Energy Center Project, Potomac Economics, Ltd. (dated March 7, 2011).

congestion.”⁵ That is, the MMU anticipates that future generation developers would seek comparable fuel cost advantages by interconnecting with an interstate pipeline and exploiting price spreads between natural gas trading hubs to the extent practicable.

NYISO Staff and the Consultants, however, apparently did not consider this economic incentive to interconnect a gas-only plant with an interstate pipeline. In addition to the cost advantage a developer might obtain by interconnecting with an interstate pipeline, it would avoid additional tariff-based costs that otherwise would be incurred to pay for LDC service. It appears that these costs were similarly omitted from the consideration of “economic tradeoffs” underlying the choice of interconnection points.

As noted above, the Services Tariff provides that this DCR 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....”⁶ This requirement extends only to the potential development of a single peaking plant. Neither NYISO Staff nor the Consultants have

⁵ Id. at 26-27.

⁶ Services Tariff at §15.4.1.2.2.

demonstrated that a gas-only proxy peaking unit would not be economically viable within Zone G.

For all the foregoing reasons, the Concerned Stakeholders respectfully urge NYISO Staff to reconsider its recommendation that the proxy peaking unit located in Zone G include dual fuel capability. Such technology is not required for peaking units interconnected with an interstate pipeline,⁷ and the foregoing discussion explains why a developer comparing the costs and benefits of interconnecting with an interstate pipeline versus a LDC system would likely choose to build a gas-only plant on the interstate system.

2.) NYISO Staff Failed To Adequately Justify The Recommendation That All Proxy Peaking Units Should Include SCR

The Concerned Stakeholders note that there is no legal requirement for a generating unit located in Zones C or F, or Zone G (Dutchess), to include SCR. NYISO Staff has acknowledged this point but nevertheless concluded that the proxy peaking unit should include SCR based on "development and permitting risks and the potential for significant additional cost of" retrofitting SCR in the future, if needed. Development and

⁷ A combination of existing peaking units, a new gas-only peaking unit (e.g., the proxy peaking plant), and distributed energy resources (e.g., demand response, distributed generation) should enable the system to operate reliably at peak load.

permitting risks include speculation by the Consultants and NYISO Staff that the NYS Board on Electric Generation Siting and the Environment (Siting Board) would not approve the siting of a proposed generating facility unless the facility minimizes or avoids adverse environmental impacts to the maximum extent practicable by including SCR.

The Concerned Stakeholders respectfully urges NYISO Staff to reconsider, and reverse, this recommendation. Initially, it must be emphasized that the Concerned Stakeholders view this issue in the context of the DCR process in which it is being considered. That is, NYISO Staff, the Consultants, and stakeholders are examining the costs and revenues of a hypothetical peaking unit that could be built once during the reset period.⁸ The analysis should be grounded in objective fact and quantitative analysis to the greatest extent practicable. Certain issues may require subjective evaluation, but those evaluations should be examined in the context of potential costs and benefits whenever possible.

With respect to SCR technology, NYISO Staff and the Consultants relied too heavily on speculation as to what actions

⁸ NYISO Staff repeatedly indicated during the DCR stakeholder process that the design features assumed for the proxy peaking plant should yield a facility that can be sited, permitted, and constructed multiple times during the reset period. This is inconsistent with the Services Tariff, which defines the proxy peaking unit as a single facility.

the Siting Board might take, and what policy decisions it might reach. In evaluating whether a hypothetical peaking unit developer might incur material costs to include SCR technology in its plant, NYISO Staff and the Consultants did not rely sufficiently on a quantitative analysis of the costs and benefits of such technology.

As noted above, utility tariffs do not currently require SCR for new peaking units, and the Concerned Stakeholders are not aware of any other legal requirement for such technology. It also is our understanding that the New York State Department of Environmental Conservation (NYSDEC) does not require SCR for new peaking units. The conclusion that a proxy peaking unit will likely include SCR is based largely on speculation as to the outcome of a future regulatory proceeding before the Siting Board. It is the Siting Board's responsibility to make policy decisions including, but not limited to, whether a proposed generating facility requires additional emissions controls. It is impossible to know now whether the Siting Board would examine a proposed plant in the future and, based on the facts and circumstances of that currently-unknown proposal, find that SCR technology would be required. Absent a clear, affirmative requirement for peaking units to include SCR, consumers should not be required to pay for the technology. This recommendation is consistent with Federal Energy Regulatory Commission

precedent, which affirmed the recommendation to exclude SCR from the New York Control Area proxy peaking unit in the current Demand Curves despite potential future regulatory action.⁹

NYISO Staff and the Consultants should refrain from speculating as to what the Siting Board will do, and focus instead on conducting an economic analysis of whether SCR investments would be cost-justified in light of known laws and regulations. Potential development and siting risks may then be used to inform consideration of the economic analysis. An economic analysis, however, was not performed and presented to stakeholders. Although the Consultants hypothesize that the cost to retrofit a peaking unit with SCR technology would be cost-prohibitive if required in the future, they do not present any estimate of the retrofit costs - or any other proof - to corroborate this assumption.

NYISO Staff's recommendation is also based in part on tighter emissions controls that might be adopted in the future. It would be premature to assume the implementation of

⁹ Docket ER14-500-000, New York Independent System Operator, Inc., 146 FERC ¶61,043 (issued January 28, 2014) at ¶74 (stating that "[w]hile there always is a risk that regulations will change in the future, we cannot base the finding of viability on speculation that the EPA or New York State regulators will act at some point in the future. A demand curve reset process takes place every three years so that changed circumstances, such as new regulations can be taken into account. A future reset process would be a more appropriate forum to consider any future developments.")

regulations that have not been adopted, and could change significantly if they are implemented. The proxy peaking unit should not include incremental costs that anticipate future regulatory actions that may or may not occur, or may not occur as anticipated. If stricter emissions regulations are adopted during the upcoming DCR period, any increased costs resulting from those regulations will be reflected when the Demand Curves are reset next.

Generation plant owners incur costs to buy allowances and offsets for the NO_x emissions released by their facilities. The Consultants did not present a comparison of these costs for an F Frame unit with and without SCR technology.¹⁰ The cost of allowances that must be purchased for each ton of NO_x actually omitted were not specified in the DCR Report. It is the Concerned Stakeholders' understanding that this data is embedded in the Consultants' model but includes proprietary data that cannot be included in public documents. As a result, the stakeholders have not been presented with any data as to the annual emissions costs savings that a developer might realize by including SCR technology in its facility.

¹⁰ Plants located in NO_x attainment zones (e.g., Zones C, F, and G) do not incur the one-time cost to procure emission reduction credits (ERCs).

At a minimum, a benefit-cost analysis of the SCR investment is needed to support the recommendation that the proxy peaking plant should include this technology. The estimated cost of SCR technology is significant - according to the DCR Report, a developer would incur incremental costs of approximately \$25 million, or approximately 13%, to develop a peaking plant with this technology in Zones C and F and the LHV (Dutchess). The magnitude of this cost is large enough that the peaking plant developer (and, likely, its financiers) would require an economic analysis of the incremental investment, and would not rely solely on speculation as to future regulatory outcomes.

It appears likely that a quantitative economic analysis would demonstrate that including SCR technology for the proxy peaking units located in Zones C, F, and G (Dutchess) would not be cost-effective. A simple analysis illustrates this point. Based on data presented in the DCR Report for the period May, 2015 through April 2016, the F Frame Unit with SCR located in Zone G (Dutchess) would emit approximately 8.1 tons of NO_x annually, whereas the same unit without SCR would emit approximately 34.5 tons of NO_x annually.¹¹ DPS examined

¹¹ These estimates are based on data culled from the DCR Report. The DCR Report states that the controlled F Frame Unit would run approximately 771 hours if located in Zone G (Dutchess), with a NO_x emissions rate of 20.9 lbs/hr. Annual emissions were estimated as follows: (1) 771 hrs/yr * 20.9 lbs/hr = 16,113.9 lbs/yr; (2) 16,113.9 lbs/yr ÷ 2,000 lbs/ton = 8.06

projected NO_x emission allowance prices embedded in the Congestion Assessment and Resource Integration Study (CARIS) database, and inflated the highest price observed by a substantial margin to derive \$500/ton as a very conservative estimate of the proxy peaking unit developer's cost to procure allowances.

Based on the foregoing estimates, SCR technology would enable a proxy peaking unit developer to avoid emitting 27.3 tons of NO_x annually, for an annual allowance cost savings of approximately \$13,650. Over the course of 20 years, the developer's cumulative savings would be approximately \$273,000. This estimate ignores additional costs that would be avoided by not having to operate and maintain the SCR. The Concerned Stakeholders submit that a proxy peaking unit developer would not invest \$25 million to save \$273,000 (\$13,650 annually) unless there is an affirmative regulatory or legal obligation to make that investment.

Moreover, NYISO Staff estimated that including SCR in the proxy peaking unit would increase annual capacity costs throughout New York by approximately \$231 million when the reset Demand Curves are implemented (as compared to Demand Curves that

tons/yr. The same process was used to estimate NO_x emissions for the uncontrolled F Frame unit, based on an estimated emissions rate of 78 lbs/hr and 882 run-time hours.

reflect an uncontrolled proxy peaking unit). The Concerned Stakeholders submit that customers should not be burdened with such a massive increase when there is no demonstrable requirement for the incremental cost of SCR in Zones C, F, and G (Dutchess), and no quantified customer benefit from its inclusion.

For all the foregoing reasons, the Concerned Stakeholders respectfully urge NYISO Staff to reconsider, and reverse, its recommendation that the proxy peaking plant include SCR technology.

3.) Proxy Peaking Units Located in Zones C and G Should Be Modeled Using Blended Gas Trading Hubs Or, Alternatively, Different Gas Trading Hubs Than Recommended By The Consultants

The DCR Report presents modeling data that relies on the Texas Eastern Zone M-3 (TETCO M3) and Iroquois Zone 2 gas hub prices for proxy peaking units located in Zones C and G (Rockland), respectively. Although as a general matter indexing to a single hub may be appropriate and simplify administration of the Demand Curves, there may be instances - such as Zone G (Rockland) - where choosing a more accurate gas index may be appropriate. Examining two potential proxy peaking units located in Dutchess and Rockland Counties in Zone G is necessary to acknowledge the inherent differences between the two locations that impact generation costs, including the sources of

gas to each unit. To better reflect the different gas supply options available to a proxy peaking unit located in Zone G (Rockland), gas costs should be indexed to a blend of hubs. This approach would approximate proxy peaking unit gas supply costs more accurately, and would also reflect the reality of how generators and LDCs procure gas. Alternatively, if the proposed blending of hubs for modeling purposes in Zone G (Rockland) is not adopted, then the hub used for modeling should be changed from Iroquois Zone 2 to "Millennium, East Deliveries" (Millennium East).¹²

The use of a single gas pipeline for modeling purposes in Zone G (Rockland) is not consistent with how LDCs and many generators actually procure supply. A generator interconnected with the LDC system may buy gas from the LDC, or pay the LDC to transport gas bought from a third party. LDCs procure natural gas from multiple sources that may be transported via multiple pipelines. For instance, Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc. (collectively, Con Edison) hold a joint gas supply and capacity portfolio that includes suppliers on eight pipelines and contracted supplies from the Marcellus Shale in the Northeast

¹² The Concerned Stakeholders affirm their prior recommendation that the Zone C proxy unit be indexed to the Dominion North gas hub, rather than TETCO M3.

and the Gulf Coast, among others.¹³ Con Edison also holds firm pipeline contracts with fourteen different interstate pipeline transportation companies.¹⁴ The cost charged to full-service LDC customers reflects a blend of these supply costs, and not the price of gas from a single pipeline. When Con Edison does not need all of its assets, it releases them through capacity release markets, and many generators benefit from the use of these released assets as the generators do not generally have their own firm pipeline capacity.

Generators interconnected with the LDC system can instead pay the utility to transport supply that the generator procured from a commodity marketer. Like LDCs, commodity marketers typically purchase gas from multiple sources and offer customers a price that reflects a blend of those costs. Commodity marketers will also use released assets from LDCs and other firm pipeline capacity holders to create the bundled products, including pipeline capacity and commodity, that most generators rely on to meet their fuel needs.

Given these common practices, the supply cost for a proxy peaking unit connected to the LDC system should not be indexed

¹³ Case 16-G-0061, Con Edison - Gas Rates, Pre-Filed Direct Testimony of Ivan Kimball at 8 (explaining that “[o]ne of the cornerstones of a reliable gas portfolio is diversity”).

¹⁴ Id.

to a single gas pipeline. Instead, the model should be updated to reflect a blend of the relevant locational gas prices from multiple pipelines in the region that a peaking unit may use to procure gas supply. It is imperative that locational differences relating to the proximity and availability of gas be reflected in the gas forecast for proxy peaking units located in Zone G (Dutchess) and Zone G (Rockland).

Few generators buy gas that travels on only one interstate pipeline. There may be opportunities, however, for a generator to secure a competitive advantage by exploiting price spreads between natural gas trading hubs by siting at locations that are upstream of gas pipeline congestion and downstream of electricity market congestion. As the MMU explained, peaking unit developers may be able to exploit price spreads to gain a competitive advantage over other market participants. Significantly, the MMU's expectation that this price spread "is likely to drive future generation investment towards" similar locations indicates that CPV Valley entering the market will not eliminate the price spread.

For this reason and the reasons stated in comments previously filed by the Concerned Stakeholders, other stakeholders, and various transmission owners, the NYISO Staff should use the Millennium pipeline - specifically the published index related to Millennium East - to model the proxy peaking

unit located in Zone G (Rockland), if the blended gas index recommended above is not adopted. Millennium East physically serves Zone G (Rockland), whereas Iroquois Zone 2 does not. The gas hub selected for modeling purposes should reflect commodity costs in the location where the peaking plant is located. Iroquois Zone 2 fails this criteria because it does not physically serve Zone G (Rockland), whereas Millennium East does serve that region.

Finally, if NYISO Staff determines that there is insufficient data to rely on Millennium East notwithstanding the foregoing, then it should change the gas hub for Zone G (Rockland) from Iroquois Zone 2 to TETCO M3. TETCO M3 is used in the current Demand Curves to index gas prices in Zone G (Rockland). It was selected because it reflects an observed difference in natural gas prices between Zone G (Rockland) and Zone G (Dutchess). TETCO M3 is also used by the MMU in its quarterly State of the Market report to represent the LHV. The Consultants have not justified their recommended change in Zone G (Rockland) gas hub for modeling purposes.