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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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New York Independent System Operator, Inc.	)	Docket No. ER17-386-000
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MOTION TO INTERVENE AND COMMENTS OF THE
MARKET MONITORING UNIT ON THE
NEW YORK ISO'S ICAP DEMAND CURVE RESET

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Potomac Economics moves to file comments concerning the filing by the New York Independent System Operator ("NYISO") on November 18, 2016 pursuant to the above-captioned proceedings. The NYISO's filing defined the proposed ICAP demand curves for the 2017/2018 Capability Year. The NYISO also filed its proposed methodology and required inputs for annual updates to the ICAP demand curves for the Capability Years 2018/2019, 2019/2020 and 2020/2021. Potomac Economics is the Market Monitoring Unit ("MMU") for NYISO and is responsible for monitoring the electricity markets. As the MMU, we are expected to provide comments on the ICAP Demand Curve Reset ("DCR") study and the NYISO's recommendations for the proposed curves.[1]

I.   NOTICE AND COMMUNICATIONS

All correspondence and communications in this matter should be addressed to:

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[1]   NYISO MST Section 30.4.6.3.1 states: "The ICAP Demand Curve periodic review schedule and procedures shall provide an opportunity for the Market Monitoring Unit to review and comment on the draft request for proposals, the independent consultant's report, and the ISO's proposed ICAP Demand Curves."

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II.   BACKGROUND AND PURPOSE

In accordance with MST 5.14.1.2, the NYISO periodically conducts the Demand Curve

Reset ("DCR") process to ensure that the capacity demand curves are set at levels that provide

efficient incentives for market based entry that satisfies the NYISO's resource adequacy needs.

We believe that the stability provided by the demand curves facilitates the forward contracting

for both capacity and energy that is needed to support investment in new and existing generation**.**

The NYISO contracted with the Analysis Group to perform a study to set the levels of the

capacity demand curves in each of the four capacity localities. After a lengthy process where it

received feedback in many stakeholder meetings, Analysis Group provided its DCR Report

recommending demand curves for the four localities. During this process, the MMU had many

opportunities to comment. Ultimately, the Analysis Group provided its comprehensive study

report, which the NYISO considered before filing the proposed curves on November 18.

III.   COMMENTS ON THE ICAP DEMAND CURVE RESET STUDY

We generally concur with most of the conclusions in the DCR study. We have limited

comments on specific elements of the DCR study and the NYISO's proposed demand curves.

A.   Natural Gas Index for the Zone G Unit

The DCR Report and the NYISO recommended assuming that the Zone G proxy unit

have fuel costs based on the Iroquois Zone 2 index. However, generators in Zone G face a range

of different gas market conditions depending on where they interconnect to the gas pipeline

system. For example, the average spread between the Millennium East Pool index (at the low end) and the Iroquois Zone 2 index (at the high end) was over $3/MMbtu in 2015. The Analysis Group provided Net CONE estimates for Dutchess County (where the Iroquois pipeline is located) and Rockland County (where the Millennium pipeline is located). Some stakeholders argued that investors would build new generation in areas where there is access to much less expensive natural gas from sources such as the Millennium pipeline and that this should result in a much lower net CONE for Zone G. Ultimately, we believe that neither Iroquois Zone 2 nor the Millennium East Pool indices are ideal for Zone G. Therefore, we recommend using a blend of the two indices.

If the Net CONE is based solely on the Iroquois Zone 2 index, it will lead to excessive investment signals in Zone G, but the resulting new entry would still occur in Rockland County and other areas with the lowest entry costs. However, if the Net CONE is based on whichever county happens to have the lowest Net CONE on an ongoing basis (Rockland County in this reset), it could lead to insufficient incentives for the following reasons. If all new entry in Zone G occurs in Rockland County, it will lead to two changes over the long term. First, transmission bottlenecks will form within Zone G, leading to increased interconnection costs for units in Rockland County and lower LBMPs. Second, the extreme price spread between Millennium East Pool and Iroquois Zone 2 will fall from current levels. These changes will increase the Net CONE of the Rockland County unit such that the Dutchess County unit might be more economic in future resets. If each DCR simply selects whichever county happens to have the lowest Net CONE in a particular, the resulting demand curves will be lower than necessary to incentivize new investment over the long term in any location within Zone G.

To illustrate why this is the case, the following example shows a hypothetical zone with two potential sites. Site A has Net CONE of $10 in years 1-5, $11 in years 6-10, $12 in years

11-15, and $13 in years 16-20. Site B has Net CONE of $12 in years 1-10 and $11 in years 11-20. Both sites have an average Net CONE of $11.50, but if the demand curve is always based on whichever site happens to have the lower Net CONE, it will result in Net CONE values of $10 in Years 1-5 and $11 in Years 6-20. Consequently, the Net CONE used for the demand curve reset will average $10.75, even though this is lower than the average Net CONE at either site. In this example, the long-term signal would be more appropriate if a 50/50 blend was used instead of simply the lowest Net CONE value in a particular year. Additionally, assuming a blend of the gas prices would also be consistent with the expectation that investment will likely occur in response to the substantial gas price spread. Such investment would tend to raise the Millennium price and reduce the Iroquois price (moving both closer to a blended price).

The capacity markets of NYISO, ISO-NE, and PJM set demand curves at levels that are sufficiently high to ensure that investors build resources so that the planning reliability needs of the system are met. Since market-based investors must make large upfront capital costs and the capacity markets do not provide price certainty far into the future, the willingness of investors to build is dependent on the ISO's commitment to this core principle of the market design. If the NYISO sets capacity demand curves over a long period (e.g., 20 years) at levels that are expected to be lower than the Net CONE at any location within a particular zone, it will lead to under-investment. For this reason, it is important to carefully select the most reasonable location as a basis for the demand curve rather than simply choosing the location that happens to be lowest cost at a particular point in time.

We are concerned that the use of Iroquois Zone 2 would result in capacity prices that exceed those necessary to facilitate efficient entry and exit in Zone G. However, simply using the county with the lowest Net CONE—in this case, Rockland County on the Millennium

pipeline—would result in excessively low demand curves over the long term. Therefore, we recommend using a blend of the two locations for calculating the demand curve for Zone G.

B.   Whether to Base the NYCA Demand Curve on a Zone C or Zone F Proxy Unit

The DCR Report and the NYISO recommended using the Zone F proxy unit to set the NYCA demand curve, which is the sole determinant of the capacity price for Zones A-F. Some stakeholders have argued that a Zone C proxy unit would be more appropriate because it would have a lower Net CONE than the Zone F unit, suggesting that Zone C is where new investment would likely occur. Although both of these Zone in the Rest-of-State ("ROS"), they have very different characteristics. Zone F is in eastern New York so it receives higher energy and ancillary services revenues because of the frequent west-to-east congestion in New York. However, the prevailing natural gas prices are significantly higher in Zone F than in Zone C. These factors offset each other to some extent, but the Net CONE in Zone C is lower than in Zone F. This is not clear in the DCR Report because Analysis Group assumed a fuel cost for Zone C equal to the Texas Eastern M-3 price index. The Texas Eastern M-3 is not a good representation of gas prices in most areas in western New York because the pipeline does not serve western New York. Other pipeline indices, such as Dominion North that service generators in Western New York would be more accurate.[2]

However, although Zone C has a lower Net CONE than Zone F, there are problems with simply using the Zone C proxy unit. Ultimately, these problems highlight a flaw with the locational configuration of the capacity market. Capacity prices in Zones A-F (i.e., the ROS area) are set by the NYCA demand curve. However, the Central East interface binds frequently, limiting flows from Zones A-E to Zone F. Similarly, gas pipeline constraints limit natural gas

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[2]   It is important to note that constraints occur on the Dominion pipeline which may lead the delivered cost of gas from the Dominion pipeline in New York to be higher than the Dominion North index price.

flows from western New York to eastern New York. Consequently, the Net CONE in Zone C is likely to differ from the Net CONE in Zone F over the long term and makes the proxy unit choice difficult. If Zone C proxy unit is used to set the NYCA demand curve, prices will not efficiently reflect market conditions in Zone F. On the other hand, if the Zone F proxy unit is used, capacity prices in Zones A-E may be inflated and are likely to prompt excessive investment in these areas.

This provides a strong basis for creating a new capacity zone to set prices for Zones A-E that could differ from the price in Zone F, but the NYISO rules allow for the creation of a New Capacity Zone ("NCZ") under very limited circumstances.[3] Over the long term, investment signals in Zone F will be different from those in Zones A-E, which can most effectively be addressed by separating western and eastern New York into different capacity zones.

The difference in Net CONE values are likely to lead to this outcome eventually because, regardless of the proxy unit selected, investment will be most profitable in western New York. As new resources enter in western New York, deliverability constraints will begin to bind related to the Central East interface, leading to the creation of an NCZ that would partition Zone F from Zones A-E. This new NCZ would allow the western New York capacity prices to fall efficiently, but only after a period of inflated prices.

Ultimately, neither the Zone C nor the Zone F proxy unit is ideal for the entire A-F region because persistent transmission constraints and gas price differences between regions will lead to long-term differences in the value of new investments between the two areas. The only way to address this problem efficiently is to create a zonal boundary that allows these two areas to have different capacity prices. Unfortunately, the current NCZ creation rules are based on performing

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[3]   The last NCZ Study showed 316 MW of headroom was available on the interface that separates Zone F from Zones A-E, but this ignores certain categories of capacity such as demand response and some imports and exports.

the "deliverability test", which does not consider many other relevant factors. This test recently

found that no zonal boundary is needed to represent the Central East interface and the next study

will not occur for four years. Given the inefficient capacity prices and cost shifting that will

occur from having uniform prices across Zones A-F, we recommend that the Commission order

the NYISO to define capacity zones consistent with the interfaces that it already uses in its

planning models so that the capacity market provides signals that are consistent with its planning

reliability needs.

C. Fuel Type of the Zone F Unit

The DCR Report recommending using a dual-fuel unit for Zone F, but the NYISO

rejected this recommendation and proposed a gas-only unit for this zone. We agree with

Analysis Group's recommendation to use a dual fuel unit for Zone F rather than the NYISO's

recommendation to use a gas-only unit. Although Analysis Group estimated that the Net CONE

would be slightly lower for a gas-only unit than for a dual fuel unit, Analysis Group identified

several difficult-to-quantify advantages for the dual fuel unit that were not captured in their

quantitative analysis. In addition, Analysis Group's model may over-estimate the net revenue of

the gas-only unit during periods with high gas prices because it assumes just a 10 percent gas

premium (or discount) on intraday purchases (or sales) under all conditions, regardless of factors

such as the quantity of the intraday purchase (or sale). This simplifying assumption was not very

significant for the dual fueled unit because it would burn oil during such periods, but this

concern is more significant for the gas-only unit. Ultimately, the demand curve should reflect

the most economic alternative, which is most likely the dual-fuel alternative. In addition, the use

of a dual-fuel unit would make the analysis less sensitive to assumptions about gas availability

during tight gas market conditions and would be more consistent with recent entry decisions in Zone F. [4]

IV. CONCLUSIONS

The NYISO and its consultant performed a comprehensive analysis of the costs of new entry in each locality in New York. This required an in depth analysis and estimates of a comprehensive set of parameters. In these comments, we identify several areas where some additional refinement would be beneficial. First, we recommend the use of a blended gas price for the fuel cost of a unit in Zone G. Second, we recommend using a dual fuel unit in Zone F. Lastly, we find that the choice of whether to use a Zone C unit or a Zone F unit to determine the NYCA demand curve provides a salient example of why the NYISO should replace the current NCZ creation process with an expanded set of pre-defined zones/interfaces consistent with its planning models. Absent this improvement, using the Zone F proxy unit for the NYCA demand curve as proposed by NYISO will likely lead to inefficiently high capacity prices in western New York.

Respectfully submitted,

/s/ David B. Patton

David B. Patton
President
Potomac Economics, Ltd.

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[4] The last 2.3 GW on new entry (including Athens in 2004, Bethlehem in 2005, and Empire in 2010) were dual-fueled.

CERTIFICATE OF SERVICE

I hereby certify that I have this day e-served a copy of this document upon all parties listed on the official service list compiled by the Secretary in the above-captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated this 9th day of December 2016 in Fairfax, VA.

/s/ David B. Patton

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