UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.	**)**	**Docket No. ER04-449-[___]**
New York Transmission Owners	**)**	

MOTION TO INTERVENE AND COMMENTS OF THE NEW YORK ISO'S MARKET MONITORING UNIT

Pursuant to Rules 212 and 214 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or "Commission"), 18 C.F.R. §§ 385.212 and 214 (2010), Potomac Economics respectfully moves to intervene in the above-captioned proceeding concerning the January 4, 2011 compliance filing (the "Filing") by the New York Independent System Operator ("NYISO"). Potomac Economics is the Market Monitoring Unit ("MMU") for the NYISO.

I. NOTICE AND COMMUNICATIONS

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II. BACKGROUND AND MOTION TO INTERVENE

The NYISO and New York Transmission Owners jointly filed on January 4, 2011 to obtain approval of Criteria and related analytical Considerations that would govern the evaluation and potential creation of new Installed Capacity zones in the New York Control Area. As stated in Section A.4 of the Filing, we believe that the proposed Criteria and Considerations

for establishing additional capacity zones are inconsistent with the language and intent of the existing Deliverability test methodology for Highways and Byways (the "Deliverability Test") set forth in Section 25.7.8 of Attachment S of the Open Access Transmission Tariff ("OATT"). As a result, the criteria proposed in the Filing are likely to not result in the creation of a new capacity zone when one is necessary. We explain in Section III of this intervention that an indication that resources are not deliverable under the Attachment S Deliverability Test should be the primary criterion for creating a new capacity zone. We have recommended since 2008 that the NYISO create new capacity zones based solely on this criterion. Section IV describes our concerns with the Filing Parties' proposed criteria. Finally, Section V discusses an alternative for implementing new capacity zones and pricing capacity efficiently in New York.

Intervention is appropriate where the movant may be directly affected by the outcome of the proceeding and has a direct interest in the same that cannot adequately be represented by any other party.[1] Potomac Economics' intervention and participation is in the public interest. As the NYISO's MMU, Potomac Economics is required under the provisions of the Services Tariff to monitor and evaluate the market outcomes and market rules to promote the efficiency and competitiveness of all markets, including the capacity market. Potomac Economics may also be bound or adversely affected by the Commission's actions herein. For these reasons, Potomac Economics respectfully requests that it be permitted to intervene in this proceeding with full rights as a party hereto.

III. CAPACITY ZONE CONFIGURATION AND ECONOMIC SIGNALS

The importance of establishing appropriate capacity zones in the face of the NYISO's current deliverability rules cannot be overstated. Deregulation of wholesale electricity markets was premised in large part on the promise that competitive markets could more efficiently

[1] *See* 18 C.F.R. § 385.214(b)(2)(ii).

govern investment in new resources and retirement of existing resources. In New York, the NYISO relies heavily on it capacity markets to provide efficient economic signals to satisfy this objective. However, the current deliverability framework undermines these signals by not establishing capacity prices that reflect binding deliverability constraints on the NYISO's transmission system. These prices require the definition of new zones when Highway deliverability constraints bind (i.e., when the Deliverability Test indicates that proposed new resources or imports are not deliverable).

Transmission constraints currently limit the ability of the system to deliver supplies from upstate New York to New York City and Long Island, so these areas have local planning requirements. Accordingly, these regions are represented as separate zones in the capacity market. Establishing separate capacity zones when there are deliverability limitations is beneficial because it distinguishes the value of capacity in a constrained part of the footprint from the value of capacity in other areas. This allows the capacity market to signal where new capacity would be most beneficial. This is particularly important in regions where the Cost of New Entry ("CONE") is likely higher than in other areas, as is the case in New York City.

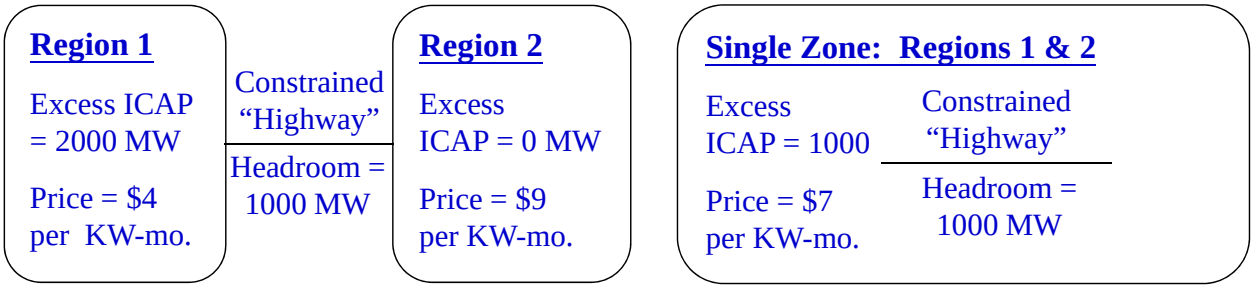
The same logic that underlies the creation of zones in New York City and Long Island applies with equal force upstate. When a deliverability constraint binds (i.e., the Deliverability Test in Attachment S indicates a constraint in delivering capacity throughout a zone), establishing a new zone is the only way for the capacity market to set efficient capacity prices on the two sides of the constraint. Establishing a capacity zones also enables more suppliers to sell capacity outside of the zone because the capacity no longer must be deliverable to the constrained area, and thereby generally lowers capacity costs for consumers outside the constrained areas.

As the Market Monitoring Unit for the NYISO, we have described this issue and recommended new capacity zones in recent State of the Market ("SOM") Reports. In the 2009

SOM, we provided examples to explain how dividing one capacity zone with a binding deliverability constraint into two zones can affect the locational capacity prices and improve economic signals. We reproduce this example below and discuss its applicability to establishing criteria for new capacity zones.

Much like in the energy market where the failure to model a transmission constraint will prevent the Location-Based Marginal Prices ("LBMPs") from pricing the constraint, capacity zones are required for efficient capacity market results. Price divergence indicating the relative value of capacity in each region can only occur across multiple zones, which is illustrated in Figure 1 below.

Figure 1: Illustration of Deliverability Issues
Multiple Zone and Single Zone Examples



Example 1: Multiple Zones **Example 2: Single Zone**

Figure 1 above depicts two deliverability scenarios. Example 1 (the multiple zone case, at left) shows how deliverability issues are addressed efficiently in a market with multiple capacity zones. Example 2 (the single zone case, at right) shows how deliverability issues can lead to insufficient or inefficient investment in a market with a single capacity zone. Both examples assume a system where there is 2000 MW of excess capacity located in one region (Region 1), while a second region (Region 2) has 0 MW of excess capacity. To meet its reliability needs, Region 2 relies on 1000 MW of transfer capability to deliver capacity from Region 1.

In Example 1, the price in Region 1 clears at $4 per kW-month, which is based on the demand curve for the system and the fact that there is a capacity surplus of 2000 MW in the

system. The price in Region 2 clears at $9 per kW-month, the level that supports new entry because Region 2 has 0 MW of excess capacity. All of the capacity is deemed deliverable. In Example 2, 1000 MW of the capacity in Region 1 cannot sell capacity because it is deemed undeliverable. As a result, the price in both regions within the capacity zone clears at $7 per kW-month, which is based on the demand curve for the system and the fact that there is a capacity surplus of 1000 MW in the system because 1000 MW is undeliverable.

The differences in market outcomes shown in the two examples translate to substantially different economic signals and incentives for market participants. Plainly, in the single-zone case the clearing capacity price does not reflect the locational value of capacity in each of the two Regions as a result of Region 1's 1000 MW of undeliverable capacity. Figure 2 uses four cases to show how these changes in market outcomes translate to different investment decisions regarding whether to expand the transmission system and/or build new resources in Region 1 and/or Region 2.

Figure 2: Incentives Resulting from Capacity Zone Configuration

Four Cases

	Cost Assumptions ($/KW-Mo.)		***Results***		
	Interface Upgrades	**New Resources**	**Zones**	**Expected Outcomes**	**Evaluation**
Case 1	Greater than $5	Region 1: $9 Region 2: $9	Multi-Zone	New resources in Region 2	Efficient
			Single Zone	No investment	Inefficient
Case 2	Greater than $5	Region 1: < $4 Region 2: $9	Multi-Zone	New resources in Region 1	Efficient
			Single Zone	No investment	Inefficient
Case 3	Less than $5	Region 1: $9 Region 2: $9	Multi-Zone	Build transmission	Efficient
			Single Zone	No investment	Inefficient
Case 4	Less than $5	Region 1: < $4 Region 2: $9	Multi-Zone	New resources and transmission in Region 1	Efficient
			Single Zone	Invest if new resources in Region 1 + tx upgrades < $7	Likely Inefficient

Figure 2 shows how investment decisions are affected by whether an area with transmission bottlenecks is represented as multiple zones or a single zone. Each row of the table summarizes one of the four cases. The two left-most columns summarize the cost assumptions used for each case. The three right-most columns summarize how the investment decisions are affected by whether the area is represented as multiple zones or a single zone. The last column to the right summarizes whether the results for the single zone and multiple zone prices is efficient or inefficient.

In the multi-zone alternatives, each of the four cases results in incentives that would be expected to facilitate efficient investment in new resources and transmission. The locational capacity price accurately reflects the needs and surpluses in each area, providing signals regarding when and where to build transmission and resources. In Case 1 for example, the cost of building new resources is $9 per kW-month in Region 1 where the clearing price is $4 per kW-month, and the cost of building new resources is $9 per kW-month in Region 2 where the clearing price is $9 per kW-month. It is economic for new resources to be built only in Region 2, which is what occurs in the multi-zone alternative. In contrast, no resources are built in the single zone alternative for Case 1 because the cost of building new resources exceeds the clearing price of $7 per kW-month.

In the single-zone alternative in each of the four cases, investors are presented with inefficient incentives and barriers to new investment in transmission and resources, which have several negative implications. First, some new resources and imports in Region 1 are deemed to be undeliverable within a single zone, which raises capacity costs to consumers in Region 1. Second, new investment in Region 2 will only occur when the single zone price rises to the Region 2 net CONE, which imposes unnecessary costs on Region 1. Third, a single zone does not provide the efficient signals to invest in new transmission, while the multi-zone alternative does (see Case 3).

These examples demonstrate that: (i) the failing of the Deliverability Test should be the primary criteria for creating of a new capacity zone, and (ii) the creation of a new capacity zone is required to ensure an efficient capacity market outcome.

IV. COMMENTS ON NYISO COMPLIANCE FILING

The preceding examples illustrate why a determination that new capacity is not deliverable on a Highway facility should be the primary criteria for determining that a new zone is necessary in the capacity market. Potomac Economics has recommended such in the 2008 and 2009 State of the Market reports. We therefore disagree with the Criteria and Considerations as proposed in the Filing because it is not consistent with this recommendation.

A. Highway Capacity Deliverability Criterion

The Highway Capacity Deliverability Criterion appears to be consistent with the Deliverability Test in Attachment S. However, it actually varies from Deliverability Test in two important respects. First, this criterion is proposed to be applied to the system "as designed", rather than "as found". One important implication of this is that surplus capacity would not be included when this criterion is applied.

This approach is flawed because the surplus that is ignored for purposes of the Criterion may be the most important factor that is causing the deliverability constraint to bind. Therefore, ignoring the surplus can cause the "as designed" evaluation under this criterion produce a result that is conflict with the actual "as found" evaluation embodied in the Deliverability Test in Attachment S.

Second, the proposed criterion would evaluate the entry of a single peaking resource, rather than the resources proposed in the relevant class year that are evaluated under the Deliverability Test. Because the latter may load the Highway transmission interface more heavily, this inconsistency could cause the Deliverability Test to indicate a problem that is not indicated by this criterion.

B. Reliability Criterion

I have raised concerns for some time that the Deliverability Test under Attachment is not a realistic test. In other words, it may indicate a deliverability problem based on a hypothetical dispatch that would never potentially occur in the real world. For example, in situations where a sizable surplus in one area of the system, the Deliverability Test will dispatch these resources up and other resources down in a manner that would only occur if many contingencies were to occur simultaneously.

The Reliability Criterion is innovative in that it poses a hypothetical that could potentially occur to determine whether the combination of the transmission capability and system resources are sufficient to maintain reliability. If the transmission interface does not bind in this case and prevents the NYISO from accessing resources throughout the zone, one could conclude that there is no deliverability problem (and therefore no reason to define a new zone).

While we generally agree with the logic underlying the Reliability Criterion, the problem remains that this criterion is not consistent with the Deliverability Test under Attachment S. In other words, as currently applied, the deliverability constraint can bind without a corresponding reliability need. Unless the NYISO is revising Attachment S to conform its Deliverability Test to this new Reliability Criterion, the application of this criterion is likely to prevent the creation of a new zone when it is needed to address the economic issues described in the prior section.

C. Avoiding "False Positives"

In describing its proposed criteria, NYISO expresses the desire to avoid "false positives" that it defines as creating a new capacity zone that is not warranted. This argument is used to support the exclusion of excess capacity in the Highway Capacity Deliverability Criterion and the use of the Reliability Criterion. These arguments are premised on the notion that a capacity zone is only warranted when there is a reliability problem and a deliverability constraint would bind with no excess capacity. However, we reject this notion of when a new capacity zone is

warranted. We believe a new capacity zone is essential when the Deliverability Test deems capacity to not be deliverable due to a highway transmission constraint. Several problems or inefficiencies occur if capacity is deemed to not be deliverable and a new zone is not created:

- The capacity market will not send the signals necessary to build new capacity if it is needed in the congested area. This is particularly important when the CONE is higher in the congested areas than it is in the uncongested areas;
- New suppliers, including importers, on the uncongested side of the transmission constraint may be inefficiently foreclosed from the market. This will generally raise capacity costs for consumers on the uncongested side and reduce competition; and
- Suppliers that can provide capacity and reliability benefits to the areas on the uncongested side of a constraint will not receive efficient investment incentives.

Therefore, the conditions under which the Filing Parties would assert that a simpler criterion (a binding deliverability constraint alone) might produce a "false positive" indication for a new capacity zones are conditions when we believe such indications true and accurately.

D. "Additional Analytic Considerations"

Based on our position that new capacity zones should be defined when the Deliverability Test identifies a binding deliverability constraint on a highway transmission interface, we believe the subsequent considerations set forth in the NYISO's filing are unnecessary and counterproductive.

The additional reviews and consultant evaluation can only serve to reduce the consistency between the zonal definitions and the results of the Attachment S Deliverability Test results. Further, and more troubling, is the proposal for stakeholders to vote on the creation of any new capacity zones. Most stakeholders have economic interests that are affected by the creation of a new capacity zone, which are based on the location of its generation or load. It would be irrational for these stakeholders to vote in a manner that is inconsistent with their economic interests. The problem is that there is no reason to expect that their economic interests will align with the efficiency implications of defining a new zone. Hence, these proposed governance rules

would further reduce the likelihood that new capacity zones will be defined that are consistent with the results of the Deliverability Test under Attachment S.

E. Proposed New Capacity Zone Timetable

Finally, the Filing Parties propose an implementation timetable of more than three years to implement the new capacity zone. Although some aspects of the definition of the new zone, such as defining the local capacity requirement, may require analysis and review, this timetable seems unreasonably long. A significant portion of this time appears to be time to wait for the next demand curve update process to run its course. Given the importance of sending accurate, efficient economic signals to the market, we recommend implementing new capacity zones as expeditiously as possible when they are deemed necessary. This may require a filing describing the parameters that would define the new capacity zone and its demand curve prior to the completion of the next demand curve update process. We believe that most of the data to do so would exist from the prior demand curve update process.

V. PREDEFINING ZONES AS AN ALTERNATIVE

Given the potential cost and time required to define new capacity zones individually as the need arises, the Filing Parties, other stakeholders, and the Commission should consider the alternative of pre-defining a set of capacity zones that would fully characterize the needs and capability of the system. This is consistent with PJM's approach in its capacity market.

This approach is attractive because the zones with deliverability problems should bind and establish efficient capacity prices that are different across the deliverability constraint. Conversely, zones with no deliverability problems should not bind and the zonal capacity prices in these areas should all be the same. In other words, there are no negative repercussions to the creation of "unnecessary" zones – if highway constraints between two predefined zones do not bind, there will be no price separation between the zones. This result has been demonstrated in

PJM. In its 2013-2014 base residual auction, seven pre-defined Locational Deliverability Areas were modeled, but only three of the zones bound.

As deliverability issues come and go with changes in the resources and transmission network, the locational capacity prices would remain an accurate and efficient reflection of the needs and supply of the system. Utilizing criteria (no matter how good) and the type of process envisioned by the Filing Parties will necessarily result in a time-consuming and costly process for adjusting the capacity zone definitions over time. Pre-defining the zones would provide for increased stability for market participants.

The NYISO has proposed to use the Multi-Area Reliability Simulation ("MARS") model to define local capacity requirements for any new zone that is deemed to be warranted. The MARS model, a sequential Monte Carlo simulation, is already used today to calculate the installed reserve margin in New York State. Additionally, a byproduct of this analysis is the quantification of the transfer capability between the zones in New York, which would be one of the primary bases for determining the local capacity requirements for each zone.

Given the feasibility and advantages of this approach, we recommend that the Commission evaluate this alternative as it evaluates the criteria and process proposed by the Filing Parties in this proceeding.

VI. CONCLUSION

Wherefore, Potomac Economics respectfully requests that the Commission grant its motion to intervene in the above-captioned proceeding to permit Potomac Economics to become a party with full rights thereto for all intents and purposes.

For the reasons set forth above, Potomac Economics recommends that the Commission reject the proposed criteria in favor of a criterion based on the actual determination under the Deliverability Test in Attachment S to the OATT that resources are not deliverable due to a

highway transmission constraint. We also recommend that the Commission direct the Filing Parties to identify means to implement new capacity zones more quickly. Finally, we recommend that the Commission direct the Filing Parties to evaluate the feasibility and benefits of pre-defining a full set of capacity zones as described in Section V of this filing.

Respectfully submitted,

/s/ David B. Patton

David Patton
President
Potomac Economics, Ltd.

January 25, 2011

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 25th day of January, 2011, in Fairfax, VA.

/s/ David B. Patton