Attachment IX

UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.

Docket No. ER14-___-000

AFFIDAVIT OF RANA MUKERJI

Mr. Rana Mukerji declares:

1. I have personal knowledge of the facts and opinions herein and if called to testify could and would testify competently hereto.

I. Purpose of this Affidavit

2. The purpose of this Affidavit is to explain that the New York Independent System Operator, Inc.'s ("NYISO's") proposal to "phase-in" the peaking plant net cost of new entry, upon which the ICAP Demand Curve¹ for the new G-J Locality is set, is reasonably expected to provide adequate price signals to retain existing capacity and attract new economic investment to satisfy reliability requirements.

II. Qualifications

- I am the NYISO's Senior Vice President of Market Structures. I have held this position since 2006. Prior to joining the NYISO I was Vice President and General Manager, and Senior Group Vice President at ABB, Inc. Previously I was the General Manager of GE Power Systems Energy Consulting.
- 4. As the NYISO's Senior Vice President of Market Structures, I am responsible for overseeing market design, product and project management, strategic and business planning, research and development, and market training.

¹ Capitalized terms that are not otherwise defined herein shall have the meaning specified in the filing letter to which this Affidavit is attached, or the meaning set forth in the Services Tariff as revised by the Commission's acceptance of the NYISO's filing to establish a New Capacity Zone and subsequent related filings in Docket Nos. ER12-360 and ER13-1380.

- 5. The Market Structures Department is responsible for designing and developing new market rules, including capacity market rules and other market design elements, and for consumer impact assessments. I have been extensively involved in the ICAP Demand Curve reset that culminated in the ICAP Demand Curves the NYISO is proposing in this filing. I also was responsible for the NYISO's 2010 and 2007 ICAP Demand Curve proposals. In each of these three ICAP Demand curve reset processes, I have been involved in evaluating whether setting the curves at various levels would send sufficient price signals to retain existing capacity and encourage economic investments in both new and existing resources.
- 6. I was extensively involved in the development of the New Capacity Zone rules, and the rules specific to the G-J Locality.
- 7. I also was directly involved in the NYISO's decision to propose a phase-in of the net cost of new entry of the peaking plant for the G-J Locality, and the resulting ICAP Demand Curve reference price. I have been involved in, and am involved with, the NYISO's evaluation of possible market scenarios to understand the potential future impacts of the proposed phase-in on capacity market clearing prices.
- 8. I have been involved in simulating market outcomes for Independent System Operators and Regional Transmission Organizations since the inception of organized markets and have published extensively in this area prior to joining the NYISO. At the NYISO, I have directed the development of NYISO energy, capacity, demand response and ancillary services markets since 2006. I was instrumental in the evolution of capacity markets including the structuring of deliverability rules and both buyer-side and supply-side mitigation measures.
- 9. I have a Bachelor of Technology degree in Electrical Engineering from the Indian Institute of Technology, and a Master of Engineering in Electric Power Engineering degree and a Master of Business Administration degree from Rensselaer Polytechnic Institute. I am also a Professional Engineer registered in the State of New York.

III. Assessment of the Potential Impacts of the Proposed Phase-In on Price Signals to Retain Sufficient Capacity to Meet Needs and Attract New Capacity

- 10. I have carefully reviewed the Affidavit of Mr. Tariq N. Niazi ("Niazi Affidavit") describing the potential capacity market-clearing prices that could result from the identified market scenarios, and the assumptions utilized by the NYISO staff when it developed those scenarios.
- 11. In my judgment, and based on my experience with the development and implementation of ICAP Demand Curves, the gradual increase in capacity market clearing prices that the scenarios suggest could occur in the G-J Locality during the 2014/2015 and 2015/2016 Capability Years, along with setting the 2016/2017 ICAP Demand Curve reference price at the full net cost of new entry of the peaking plant, escalated to 2016/2017 dollars, would be adequate to retain sufficient existing capacity to meet reliability needs, and send a price signal to attract efficient investment in new and existing Capacity Resources.
- 12. As set forth in the filing letter and in the Niazi Affidavit, the phase-in period proposed is the first two years of the three-year ICAP Demand Curve reset period, with the full, escalated reference price in effect for the third year. For ease of reference, I have included below Table 1 from the Niazi Affidavit. That table contains an average of the Summer 2013 actual clearing prices, and an estimate of the average of the Winter 2013/2014 clearing prices, stated in terms of dollars per kilowatt per month. For the 2014/2015 2016/2016 Capability Years, it contains estimated values for the specified scenarios.
- 13. As Mr. Niazi states, the clearing prices in Table 1 are the results of NYISO simulations based on the assumptions outlined in the Niazi Affidavit. As Mr. Niazi notes, clearing prices cannot be predicted with certainty for the three year period covered by the implementation of the G-J Locality. Among other uncertainties, the NYISO does not know which resources may enter or exit the market during this period. One scenario that could have a significant effect would be if the approximately 500 MW Danskammer Generating Station ("Danskammer") were to return to service.² As Mr. Niazi also states, the values are

² Danskammer was damaged during Superstorm Sandy in October 2012 and has been non-operational since that time.

presented for illustrative, informational purposes only. While the absolute price numbers are illustrative, the relative price difference between the scenarios are reasonable expectations of actual market outcomes.

Capability Year – Scenario	Summer (\$/kW-month)	Winter (\$/kW-month)	Annual (\$/kW-month)
2013/14	\$ 5.80	\$ 2.85	\$ 4.33
2014/15 without Phase-In	\$10.65	\$ 6.11	\$ 8.38
2014/15 with Phase-In	\$ 8.09	\$ 4.64	\$ 6.37
2015/16 – without Phase-In	\$ 10.18	\$ 5.63	\$ 7.91
2015/16 – with Phase-In	\$ 8.95	\$ 5.00	\$ 6.98
2016/17	\$ 11.72	\$ 7.12	\$ 9.42

Table 1 -- Summary of Results of G-J Locality Scenarios

14. As illustrated in Table 1, even with a phase-in, the estimated yearly average clearing price for 2013/14 and the estimated values for the next three Capability Years, are, respectively: \$4.51, ³ \$6.15, \$6.90 and \$9.41.⁴ Thus for each of the next three Capability Years, the clearing prices are expected to be significantly above the clearing prices under the ICAP

³ The Winter 2013/14 average price estimate was calculated considering historic patterns in the behavior of Market Participants and the results of the first two Spot Market Auctions of the Capability Period. It is not, and is not intended to be used as a "price forecast" for the remaining four ICAP Spot Market Auctions. It is presented here with the limited purpose to act as a reasonable estimate for the purposes of this comparison.

⁴ Note that under the assumptions presented in the Niazi Affidavit, the potential G-J Locality clearing prices for the 2015/2016 and 2016/2017 Capability Years already reflect an increase in the capacity associated with Unforced Deliverability Rights. Absent this assumption, the phase-in would result in a larger price increase during the second year of the proposed ICAP Demand Curves.

Demand Curve currently in effect for purchases in the area that includes Load Zones G, H, and I (*i.e.*, the NYCA ICAP Demand Curve).

- 15. In my opinion, the fact that the clearing prices are expected to increase significantly starting in the first year of the proposed ICAP Demand Curve for the G-J Locality, with the Locational Minimum Installed Capacity Requirement specific to that Locality, and the fact that the full ICAP Demand Curve with escalation is in effect for the third year, will provide sufficient market signals to attract new capacity and retain existing capacity needed to meet requirements.
- 16. It is to be noted that the lead time for construction of new generation is at least two to three years. Thus the phase-in should not affect the market entry decision of most new generating capacity.
- 17. Existing capacity will have a pricing regime which is more attractive than the one currently in place in the first two years and will also have the expectation to get the full, escalated ICAP Demand Curve price in two years' time. Thus I believe that most existing generation will have sufficient market incentive to continue to participate in the market. I also believe that new demand response capacity resources (*i.e.*, Special Case Resources) will enter the market with the expectation of a more attractive pricing environment than currently in effect. Note that demand response, which has a shorter lead time than generation, may therefore enter more gradually than if there was not a phase-in. However, the ultimate quantity of demand response in the third year should be the same with or without phase-in.

This concludes my Affidavit.

ATTESTATION

I am the witness identified in the foregoing affidavit. I have read the affidavit and am familiar with its contents. The facts set forth therein are true to the best of my knowledge, information, and belief.

Kone Mulienji. Rana Mukerji

Subscribed and sworn to before me this $\sqrt[3]{5}$ day of November 2013.

6/24/2014 Notary Public

My commission expires: ____

