

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**New York Independent System Operator, Inc.**

**Docket No. ER08-\_\_\_\_-000**

**AFFIDAVIT OF DAVID B. PATTON, PH.D.**

November 30, 2007

**I. Qualifications**

1. My name is David B. Patton. I am an economist and President of Potomac Economics. Our offices are located at 9990 Fairfax Boulevard, Fairfax, Virginia 22030. Potomac Economics is a firm specializing in expert economic analysis and monitoring of wholesale electricity markets.
2. I currently serve as the independent Market Advisor for the New York Independent System Operator, Inc. (“NYISO”) and ISO New England Inc. (“ISO-NE”). I have served in this capacity for the NYISO since May 1999 and for ISO-NE since June 2001. As the independent Market Advisor, I am responsible for assessing the competitive performance of the markets, including assisting in the implementation of a monitoring plan to identify and remedy market design flaws and abuses of market power. This has included preparing a number of reports that assess the performance of these markets and providing advice on numerous issues related to market design and economic efficiency.
3. I have worked as an energy economist for seventeen years, focusing primarily on the electric utility and natural gas industries. I have provided strategic advice, analysis, and expert testimony in the areas of electric power industry restructuring, pricing, mergers, and market power. I have also advised other existing and prospective RTOs on transmission pricing, market design, and congestion management issues. With regard to competitive analysis, I have provided expert testimony and analysis regarding market power issues in a number of mergers and market-based pricing cases before the Federal Energy Regulatory Commission (“Commission”), state regulatory commissions, and the U.S. Department of Justice.
4. Prior to my experience as a consultant, I served as a Senior Economist in the Office of Economic Policy at the Federal Energy Regulatory Commission (“Commission”), advising on a variety of policy issues including transmission pricing and open-access policies, market design issues, and electric utility mergers. As a member of the Commission’s advisory staff, I worked on policies reflected in Order No. 888, particularly on issues related to power pool restructuring, independent system operators, and functional

unbundling. I also analyzed the competitive characteristics of alternative transmission pricing and electricity auctions proposed by ISOs.

5. Before joining the Commission, I worked as an economist for the U.S. Department of Energy. During this time, I helped to develop and analyze policies related to investment in oil and gas exploration, electric utility demand side management, residential and commercial energy efficiency, and the deployment of new energy technologies.
6. I have a Ph.D. in Economics and a M.A. in Economics from George Mason University, and a B.A. in Economics with a minor in Mathematics from New Mexico State University.

## **II. Purpose of Affidavit**

7. The purpose of this affidavit is to provide a brief summary of my opinion regarding the new ICAP Demand Curves as proposed by the NYISO for the next three Capability Years, 2008-2009, 2009-2010, 2010-2011.
8. In my opinion, the NYISO Board-approved ICAP Demand Curve parameters are both reasonable and consistent with the underlying objectives for which ICAP Demand Curves were originally implemented.

## **IV. NYISO's Proposed New ICAP Demand Curves**

9. In my role as Independent Market Advisor, I reviewed: the NERA/S&L Report and underlying assumptions; the NYISO Staff Report as updated on October 5, 2007; and the NYISO Board's decision to adjust the assumption of excess capacity in the NYCA.
10. I also performed an independent analysis of the estimated energy and ancillary services revenues used in the NERA/S&L Report. I met with the NYISO staff and stakeholders on several occasions to discuss the results of my analysis. The values proposed by the NYISO-approved demand curves are consistent with my analysis.
11. The choice of peaking technology is one of the most significant issues affecting the 2007 ICAP Demand Curve update. The NYISO Staff concluded that the LMS-100 should be the technology choice upon which to develop the demand curves in New York City (NYC) and Long Island (LI). While the LMS-100 unit is a newer technology with which the industry

has relatively less performance and equipment cost experience, I agree with the NYISO staff report that there is enough certainty surrounding this unit for purposes of setting the ICAP Demand Curve reference values in NYC and LI. Moreover, the alternative unit, the LM6000, produces sharp increases in the NYC and LI Demand Curve reference values that are unlikely to accurately represent the costs for efficient new entry in light of the new technology represented by the LMS-100.

12. I also agree with the NYISO Report's recommendation to use the 7FA unit for determining the reference values for the New York Control Area ("NYCA") demand curve. The 7FA, with lower fixed costs and higher variable costs, comports with the language in the Services Tariff. Moreover, as shown in the Affidavit of David Lawrence, there is very little difference between the 7FA and LMS-100 in the Demand Curve reference values because their net cost of new entry is almost the same.
13. Subsequent to the completion of the NERA/S&L Report, several changes to the underlying assumptions were incorporated to the NYISO's current ICAP Demand Curve proposal. The NERA/S&L Report included a separately identified risk that an investor had a 20 percent probability of not achieving half of the necessary revenue from the capacity markets. This risk factor was removed. The NYISO Staff Report removed that factor as a separate component of risk because it felt there was not sufficient support for the assumption. The NYISO also updated its report on October 5, 2007 in order to capture the latest cost estimate of LMS-100, which was prepared by Sargent & Lundy. I agree with both of these modifications.
14. The former factor for revenue recovery was premised on the risk that uneconomic entry would undermine the market signals. Uneconomic entry, however, should be subject to appropriate market power mitigation measures, as determined in other proceedings outside the scope of this docket. Thus, the demand curves should assume that the market will function properly.
15. The NYISO Report update was made to reflect the fact that the entry costs for the LMS-100 have been rapidly changing. Making this change should improve accuracy of the demand curve parameters.

16. The final adjustment to the proposed curves was approved by the NYISO's Board of Directors on November 13, 2007 as a result of its request for further analysis of one of the assumptions underlying the curves. Specifically, as capacity is added, the amount of resulting surplus can be expected to fluctuate between zero and the level that would exist after new generation enters to prevent the system from falling below minimum requirement. The Board approved changing the assumed excess capacity level for the NYCA demand curve from 102.8 percent to 101.5 percent of the minimum requirement. The 1.5 percent level corresponds to approximately 588 MW. The Board did not adjust the assumed levels of excess of 104 percent for NYC and LI.
  
17. The Board's decision assumes that on average over years 4-30 of the 30-year period in question, most of the excess capacity in the state will be in NYC or LI. In assessing this change, it is important to recognize that excess capacity in New York City and Long Island does not translate into excess in NYCA – they are not additive. In other words, NYC could have 500 MW surplus at the same time that the NYCA surplus is zero. In both the NYCA and the two Localities, the assumed average surplus is subject to some uncertainty due to the lumpy nature of the investment and the need to build to meet both locational needs and NYCA requirements. For the NYCA as a whole, however, the significantly larger volume of capacity compared to either Locality means that even the addition of a relatively large unit before all of its capacity is required will result in a small excess capacity levels (in percentage terms). Additionally, such excess is more readily absorbed by load growth and changes in capacity imports or exports. In addition, as indicated in the NERA/S&L Report, there is not a sufficient history to develop firm empirical conclusions about the amount of excess capacity in the ROS. For all of these reasons, I believe there is a reasonable range of assumptions that could be made for this parameter. I believe the Board's assumption of 1.5 percent for the NYCA region is within the reasonable range of assumptions that could be made for the excess capacity, although it is probably at the lower end of such a range. My conclusion that the Board's assumption is reasonable is confirmed by the sensitivity analysis performed by Mr. Lawrence and described in his affidavit.
  
18. I have reviewed the NERA/S&L Report, the updated NYISO staff report, and the decision by the NYISO's Board, including all of the assumptions and calculations. Many of the

NERA/S&L Report's specific assumptions incorporate a measure of independent judgment. I believe that the assumptions used, as adjusted by the NYISO staff and Board, fall within a zone of reasonableness for such assumptions. Hence, I conclude that the set of demand curves filed today that resulted from this process are reasonable and are consistent with the overall objectives of the NYISO's sloped demand curves.

19. This concludes my affidavit.