

## Attachment XV

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

**New York Independent System Operator, Inc.     Docket No. ER13-\_\_\_\_-000**

**AFFIDAVIT OF GARY JORDAN**

Gary Jordan 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 discuss my review of and conclusions regarding the Affidavit submitted by Dr. Henry Chao and Mr. John Adams concerning the process the New York Independent System Operator, Inc. (“NYISO”) followed to determine the boundary for the New Capacity Zone<sup>1</sup> (“NCZ”) that the NYISO has proposed in this proceeding and to determine the Indicative NCZ Locational Minimum Installed Capacity Requirement (“Indicative NCZ LCR”).

**II. Qualifications**

3. My name is Gary Jordan. I am an independent consultant working for the General Electric Company (“GE”). My business address at GE is 1 River Road, Schenectady, NY 12065.

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<sup>1</sup> Terms with initial capitalization not defined herein have the meaning set forth in the Market Administration and Control Area Services Tariff (“Services Tariff”) and if not defined therein, then in filing in which this Affidavit is incorporated.

4. My responsibilities include supporting GE personnel and customers in performing reliability and economic studies. In addition, I continue to assist in the development and application of the Multi-Area Reliability Simulation Program (“MARS”) and the Multi-Area Production Simulation Program (“MAPS”).
5. I have forty years of experience in various aspects of electric system planning. I started working at GE in 1973 and held various positions before retiring as a Director in 2011. During this time I was one of the key developers of both MAPS and MARS. For a period my responsibilities also included managing the groups responsible for the development and application of MAPS and MARS. Throughout my career I have worked closely with the New York Power Pool (“NYPP”), the NYISO, and Market Participants in the application of reliability methods and tools to determine the Loss of Load Expectation (“LOLE”), and to help determine the appropriate capacity reserve margins, needed in New York.
6. I hold a Bachelor of Science and a Master of Science Degrees in Electric Power Engineering from Rensselaer Polytechnic Institute (“RPI”).

### **III. Introduction/Overview**

7. Having reviewed the analysis and results it is my opinion that the NYISO reasonably: (i) concluded that the NCZ that it is required to establish should encompass Load Zones G, H, I, and J (“GHIJ”), but exclude Load Zone K; (ii) selected and applied the methodology that it used in its NCZ boundary analysis; and (iii) determined the Indicative NCZ LCR for its proposed NCZ.

#### **IV. Determination of the NCZ Boundary**

8. The NYISO's boundary analysis correctly focused on an evaluation of the "fungibility" of capacity measured by assessing how much capacity could be shifted from Load Zones G, H, and I ("Load Zones GHI") to Load Zones J and separately shifting it to Load Zone K without violating the New York Control Area ("NYCA") LOLE criterion. The fact that Load Zone J capacity is much more fungible with Load Zones GHI capacity than is Load Zone K capacity is a strong rationale for establishing Load Zones GHIJ as the NCZ.
9. It was reasonable for the NYISO to conduct this analysis using the General Electric MARS model. MARS has been successfully used on many occasions in similar analyses conducted by Independent System Operators/Regional Transmission Organizations and others in the energy sector. Since the NYISO began it has used MARS to help determine the appropriate reserve margin to maintain an interconnected reliability of 0.1 days/year LOLE and to determine the appropriate Locational Minimum Installed Capacity Requirement ("LCR") for Load Zones J and K. In addition, MARS is used by the North American Electric Reliability Corporation ("NERC") and Northeast Power Coordinating Council ("NPCC") to determine the interconnected reliability of the region.
10. The NYISO's approach provided information that is pertinent to and consistent with the requirement in its Services Tariff that the NYISO consider "the extent to which incremental Capacity in individual constrained Load Zones could impact

the reliability and security of constrained Load Zones taking into account interface capability between constrained Load Zones.”<sup>2</sup>

11. The second step of the NYISO’s analysis was consistent with and reinforced its finding that adding capacity to Load Zone J provides greater benefits in Load Zones GHI than adding capacity to Load Zone K. But the Commission should not interpret the second step’s results as suggesting that capacity additions in Load Zone K would provide some benefits to Load Zones GHI that might justify including Load Zone K in the NCZ. The results do not justify it.
12. I agree with Dr. Chao and Mr. Adams that the mere fact that capacity additions in Load Zone K might create some limited reliability benefits for Load Zones GHI is not a persuasive reason to include Load Zone K in the NCZ. Capacity additions in regions outside of (and quite distant from) the NYCA have the potential to create *de minimis* reliability benefits inside of it. The key question is the extent of the reliability benefits. The NYISO has reasonably concluded that the benefits to Load Zones GHI of Load Zone K capacity additions are not sufficient to justify including Load Zone K in the NCZ. By contrast, the benefits to Load Zones GHI from Load Zone J additions is substantially greater and justifies including Load Zone J in the NCZ.
13. The NYISO’s transmission security analysis was reasonable and corroborates its conclusion that the NCZ should encompass Load Zones GHII but not K.

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<sup>2</sup> Services Tariff Section 5.16.2.

**V. Determination of the Indicative NCZ LCR**

14. The NYISO's process for calculating the Indicative NCZ LCR, including its use of the MARS model and the unified methodology, was reasonable. This is the same model and methodology which has been applied for calculating the LCR for Load Zones J and K. The methodology was consistently applied for the calculation of the LCR for Load Zones GHIJ.
15. The application of this method resulted in a LCR for Load Zone K of 105% and a LCR of 86% for Load Zone J. The application of the methodology for NYISO's proposed G-J Locality resulted in an Indicative NCZ LCR of 88%. These results appear to be reasonable and consistent.
16. This concludes my affidavit.

## ATTESTATION

I am the witness identified in the foregoing Affidavit of Gary Jordan dated April 30, 2013 (the "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.

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Gary Jordan  
Director (retired)  
General Electric Co.

April 30, 2013

Subscribed and sworn to before me  
this 30<sup>th</sup> day of April 2013.

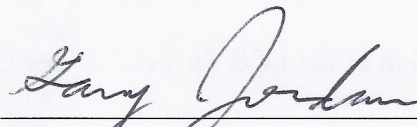
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Notary Public

My commission expires: \_\_\_\_\_

ATTESTATION

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Gary Jordan  
Director (retired)  
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April 30, 2013

Subscribed and sworn to before me  
this 30<sup>th</sup> day of April 2013.



Notary Public

**CAROLYN CZUB**  
Notary Public, State of New York  
No. 01CZ6217408  
Qualified in Saratoga County  
Commission Expires February 8, 20 14

My commission expires: \_\_\_\_\_