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January 13, 2012

VIA E-MAIL

Honorable Jaclyn A. Brilling
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350

Re: Case 07-E-0088 –In the Matter of the Adoption of an Installed Reserve Margin for the New York Control Area

Dear Secretary Brilling:

On behalf of the New York State Reliability Council, these comments are submitted in the above-referenced proceeding.

If you have any questions regarding this filing, please contact me.

Respectfully submitted,

Paul L. Gioia
Counsel to the
New York State Reliability Council

Enclosure

cc: David Drexler
Edward Schrom
32268762

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Case 07-E-0088 - In the Matter of the Adoption	)
Of an Installed Reserve Margin for the New York	)
Control Area.	)

COMMENTS OF THE NEW YORK STATE RELIABILITY COUNCIL

ON THE INSTALLED RESERVE MARGIN

FOR THE 2012-2013 CAPABILITY YEAR

Michael Mager
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Dated: January 13, 2012

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Case 07-E-0088 - In the Matter of the Adoption Of an Installed Reserve Margin for the New York Control Area.	)))

COMMENTS OF THE NEW YORK STATE RELIABILITY COUNCIL

New York State Reliability Council, LLC ("NYSRC"), through the Chairman of its Executive Committee, respectfully submits these Comments in Case 07-E-0088. On December 28, 2011 the New York State Public Service Commission ("Commission") solicited comments on whether the Commission should adopt the NYSRC's Installed Reserve Margin ("IRM") of 16.0% for the New York control area for the capability year beginning on May 1, 2012 and ending on April 30, 2013. The NYSRC respectfully requests that the Commission consider these comments in support of the NYSRC's IRM determination for the 2012-2013 capability year.

I. SUMMARY

On December 2, 2011, the NYSRC Executive Committee adopted an IRM of 16.0% for the New York control area ("NYCA") for the capability year beginning on May 1, 2012 and ending April 30, 2013. The Executive Committee's decision was based on a technical study, the New York Control Area Installed Capacity Requirements for the Period May 2012 through April 2013, Technical Study Report ("2012 IRM Study" or "the Study") and other relevant factors. The 2012 IRM Report is attached to these comments as Exhibit 1. The NYSRC requests that the 2012 IRM Report be made part of the record on this proceeding.

Since the 16.0% IRM for the 2012-2013 capability year adopted by the NYSRC represents a change from the 2011-2012 IRM of 15.5%, the NYSRC is required to make an

appropriate filing with the Federal Energy Regulatory Commission ("FERC") under Section 3.03 of the NYSRC Agreement. The NYSRC submitted its filing to FERC on December 12, 2011 and requested that FERC accept and approve the filing effective no later than February 16, 2012 so that the revised IRM may be in place for the installed capacity auction to be conducted by the NYISO on March 28, 2012.[1]

II. BACKGROUND

Formation and Responsibilities of the NYSRC

The NYSRC was approved by FERC in 1998 as part of the comprehensive restructuring of the competitive wholesale electricity market in New York State.[2] Under the restructuring, the New York Power Pool ("NYPP") was replaced by the New York System Independent System Operator ("NYISO") as the entity with the primary responsibility for the reliable operation of the State's bulk power system. The NYISO also assumed responsibility for administration of the newly established competitive wholesale electricity markets.

The NYSRC was established to promote and preserve the reliability of the New York State power system by developing, maintaining and, from time to time, updating the reliability rules ("Reliability Rules") that govern the NYISO's operation of the State's bulk power system. The NYSRC develops Reliability Rules in accordance with standards, criteria and regulations of NERC, NPCC, FERC, the Commission, and the Nuclear Regulatory Commission.[3] The NYISO/NYSRC Agreement provides that the NYISO and all entities engaged in transactions on the New York State power system must comply with the Reliability Rules adopted by the NYSRC.[4] Compliance with NYSRC Reliability Rules, which are

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1 New York State Reliability Council, Docket No. ER12-597-000 (December 12, 2011).

2 Central Hudson Gas & Electric Corp., *et al.*, 83 FERC ¶ 61,352 (1998).

3 NYISO/NYSRC Agreement, Section 4.1.

4 NYISO/NYSRC Agreement, Section 2.1, 3.1.

incorporated into the NYISO's procedures, are made binding on market participants through the NYISO's tariff.[5] The NYISO/NYSRC Agreement also assigns to the NYSRC the responsibility to monitor the NYISO's compliance with the Reliability Rules and requires the NYISO to provide the NYSRC the data necessary for it to effectively perform its compliance monitoring responsibility.[6] Each member of the NYSRC Executive Committee is required to have substantial knowledge and/or expertise in the reliable operation of bulk power electric systems.[7]

At its inception, the NYSRC adopted the pre-existing NYPP reliability rules. These planning and operating rules had been developed by the NYPP and the Commission based on decades of experience in the operation of the New York bulk power system. Revisions to the Reliability Rules are developed by the NYSRC in an open process with direct participation by the NYISO and Department of Public Service staff. If the NYSRC and the NYISO should disagree with respect to a new or modified Reliability Rule, and cannot resolve their differences, the matter is referred to the Commission for resolution, unless the dispute affects not only reliability but also matters subject to FERC's jurisdiction that must be resolved directly by FERC.[8]

In addition to incorporating NERC and NPCC reliability criteria, the NYSRC Reliability Rules include criteria that are more specific or more stringent than NERC and NPCC criteria that are necessary to meet the special requirements of the NYCA. These special requirements include the specific electric system characteristics and demographics of New York State, the complexities related to the maintenance of reliable transmission in New York State

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5 NYISO Market Services Tariff, Sections 5.1, 5.6.

6 NYISO/NYSRC Agreement, Section 3.6.

7 NYSRC Agreement, Section 4.03.

8 NYISO/NYSRC Agreement, Article 5.

given the configuration of the State's bulk power system, and the severe consequences that result from power interruptions in New York State and, in particular, New York City and Long Island.

PSC Support for NYSRC

As noted, the NYSRC was formed as an integral part of the restructuring of the electricity industry in New York State. It was formed, with the active support of the Commission, to ensure that the more stringent and mandatory reliability standards in New York State would be retained under the new competitive wholesale market structure. In its Supplemental Comments in the FERC proceeding in which the NYSRC Agreement and the NYISO/NYSRC Agreement were approved, the Commission stated:

> PSCNY conditioned its support for the State Reliability Council upon amendments that would broaden the governance of the [NY]SRC to include more non-utility board members, and to narrow the responsibilities of the [NY]SRC. The Supplemental Filing appropriately circumscribes the authority of the SRC. As stated by the utilities, the [NY]SRC would be limited to establishing reliability rules that tailor the national North American Reliability Electric Reliability Council ("NERC") and regional Northeast Power Coordinating Council ("NPCC") standards to New York State. Consistent with NERC, NPCC, NYPP and NYPSC standards, the [NY]SRC would establish a state-wide reserve margin to ensure that adequate generation is available to serve load during normal conditions and system emergencies.
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> * * *
>
> As proposed, the ISO would implement and enforce the reliability rules, not the [NY]SRC. Moreover, the ISO alone would apply the state-wide resource requirement to set the actual generation resource levels suppliers must meet on different parts of the state grid. [9]

[9] Supplemental Comments, State of New York Department of Public Service, Docket Nos. ER 97-1523, et al, (filed May 23, 1997), at 2.

NYSRC Establishment of Statewide IRM

One of the most important responsibilities assigned to the NYSRC is the establishment of the annual statewide installed capacity for the NYCA.[10] Section 3.03 of the NYSRC Agreement reads as follows:

> The NYSRC shall establish the state-wide annual installed capacity requirements for New York State consistent with NERC and NPCC standards. The NYSRC will initially adopt the installed capacity requirement as set forth in the current NYPP Agreement and currently filed with FERC. Any changes to this requirement will require an appropriate filing and FERC approval. In establishing the state-wide annual installed capacity requirements, consideration will be given to the configuration of the system, generation outage rates, assistance from neighboring systems and Local Reliability Rules.

The installed capacity requirement is described generally in terms of an installed reserve margin or IRM.[11] The NYISO was assigned the responsibility to determine the installed capacity obligations of load serving entities ("LSEs") and to establish locational capacity requirements needed to ensure that the statewide IRM is met.[12] The responsibilities assigned by the NYSRC Agreement and the NYISO/NYSRC Agreement are implemented in the NYSRC's Reliability Rules, the NYSRC's Policy No. 5-5 and the NYISO's Market Administration and Control Area Services Tariff ("Market Services Tariff"). The following is a brief description of the relevant portions of those documents.

NYSRC Resource Adequacy Criteria

The Introduction to Section A, Resource Adequacy, of the NYSRC Reliability Rules provides that among the factors to be considered by the NYSRC in setting the annual

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[10] NYSRC Agreement, § 3.03; NYISO/NYSRC Agreement, § 4.5.

[11] The annual statewide ICR is established by implementing Reliability Rules for providing the corresponding statewide installed reserve margin ("IRM") requirements. The IRM requirements relates to ICR through the following equation: ICR = (1+ IRM Requirement) x Forecasted NYCA Peak Load (NYSRC Reliability Rules, A. Resource Adequacy, Introduction).

[12] NYISO/NYSRC Agreement, § 3.4; NYISO Market Services Tariff, §§ 5.10 and 5.11.4.

statewide IRM are the characteristics of the loads, uncertainty in the load forecast, outages and deratings of generating units, the effects of interconnections to other control areas, and transfer capabilities within the NYCA.

Reliability Rule A-R1, NYCA Installed Reserve Margin Requirement, provides as follows:

> The NYSRC shall establish the IRM requirement for the NYCA such that the probability (or risk) of disconnecting any firm load due to resource deficiencies shall be, on average, not more than once in ten years. Compliance with this criterion shall be evaluated probabilistically, such that the loss of load expectation (LOLE) of disconnecting firm load due to resource deficiencies shall be on average, no more than 0.1 day per year. This evaluation shall make due allowance for demand uncertainty, scheduled outages and deratings, forced outages and deratings, assistance over interconnections with neighboring control areas, NYS Transmission System emergency transfer capability and capacity and/or load relief from available operating procedures.

Reliability Rule A-R2, Load Serving Entity Installed Capacity, provides that:

> LSEs shall be required to procure sufficient resource capacity for the entire NYISO defined obligation procurement period so as to meet the statewide IRM requirement determined from A-R1. Further, this LSE capacity obligation shall be distributed so as to meet locational ICAP requirements, considering the availability and capability of the NYS Transmission System to maintain A-R1 reliability requirements.

NYSRC Policy No. 5-5, Procedure for Establishing New York Control Area Installed Capacity Requirements

The last paragraph of Section 1.0, Introduction, of NYSRC Policy No. 5-5 provides that:

> The final NYCA IRM requirement, as approved by the NYSRC Executive Committee, is the basis for various installed capacity analyses conducted by the NYISO. These NYISO analyses include the determination of the capacity obligation of each Load Serving Entity (LSE) on a Transmission District basis, as well as Locational Installed Capacity Requirements, for the following capability year. These NYISO analyses are conducted in accordance with NYSRC Reliability Rules and Procedures.

Section 2.2 of NYSRC Policy No. 5-5 provides a timeline for establishing the statewide IRM. This timeline is based on the NYSRC's providing the NYISO with the following year's NYCA IRM requirement by December 5, when the NYISO, under its installed capacity and procurement process, is required to begin its studies for determining the following summer's LSE capacity obligations.

Section 4.4 of NYSRC Policy No. 5-5 sets forth the process for approval of the annual statewide IRM by the NYSRC Executive Committee.

> 4.4 NYSRC Executive Committee
>
> The NYSRC Executive Committee has the responsibility of approving the final IRM requirements for the next capability year.
>
> - Review and approve data and modeling assumptions for use in IRM Study; review preliminary base case results.
> - Approve sensitivity studies to be run and their results.
> - Review and approve final IRM Study prepared by ICS [Installed Capacity Subcommittee].
> - Establish and approve the final NYCA IRM requirement for the next capability year (See Section 5).
> - To the extent practicable, ensure that the schedule for the above approvals allows that the timeline requirements in Section 2.2 are met.
> - Notify the NYISO of the NYCA IRM requirements and meet with NYISO management as required to review IRM Study results.
> - Make IRM requirement study results available to state and federal regulatory agencies and to the general public.

NYISO Market Services Tariff

Relevant portions of Section 5.10 of the NYISO's Market Services Tariff, NYCA Minimum Installed Capacity Requirement, read as follows:

> The NYCA Minimum Installed Capacity Requirement is derived from the NYCA Installed Reserve Margin, which is established each year by the NYSRC. The NYCA Minimum Installed Capacity Requirement for the Capability Year beginning each May 1 will be established by multiplying the NYCA peak Load

forecasted by the ISO by the quantity of one plus the NYCA Installed Reserve Margin. The ISO shall translate the NYCA Installed Reserve Margin, and thus the NYCA Minimum Installed Capacity Requirement, into a NYCA Minimum Unforced Capacity Requirement.

* * *

The NYCA Minimum Unforced Capacity Requirement represents a minimum level of Unforced Capacity that must be secured by LSEs in NYCA for each Obligation Procurement Period. Under the provisions of this Services Tariff and the ISO Procedures, each LSE will be obligated to procure its LSE Unforced Capacity Obligation.

The first paragraph of Section 5.11.4 of the Market Services Tariff, LSE Locational Minimum Installed Capacity Requirements, reads as follows:

The ISO will determine the Locational Minimum Installed Capacity Requirements, stated as a percentage of the Locality's forecasted Capability Year peak Load and expressed in Unforced Capacity terms, that shall be uniformly applicable to each LSE serving Load within a Locality. In establishing Locational Minimum Installed Capacity Requirements, the ISO will take into account all relevant considerations, including the total NYCA Minimum Installed Capacity Requirement, the NYS Power System transmission Interface Transfer Capability, the election by the holder of rights to UDRs that can provide Capacity from an External Control Area with a capability year start date that is different from the corresponding ISO Capability Year start date ("dissimilar capability year"), the Reliability Rules and any other FERC-approved Locational Minimum Installed Capacity Requirements.

III. Adoption of the IRM For 2012-2013 Capability Year

2012 IRM Study

The 2012 IRM Study was conducted by the NYSRC to determine the statewide IRM necessary to meet NYSRC and NPCC criteria within the NYCA during the period from May 1, 2012 through April 30, 2013. Computer runs for the 2012 IRM Study were performed by NYISO staff at the request and under the guidance of the NYSRC. The 2012 IRM Study uses a

state-of-the art computer model called the General Electric Multi-Area Reliability Simulation Program ("GE-MARS"). The GE-MARS model includes a detailed load, generation and transmission representation of the 11 NYCA zones as well as the four external control areas ("Outside World Areas") interconnected to the NYCA. The GE-MARS model calculates the probability of outages of generating units, coupled with a model of daily peak-hour loads, thus determining the number of days per year of expected capacity shortages. The resulting measure, termed the "loss-of-load expectation" ("LOLE") index, provides a measure of generation system reliability. This technique is commonly used in the electric power industry for determining installed reserve requirements.

This 2012 IRM Study employs two study methodologies, the *Unified* and the *IRM Anchoring Methodologies.* These methodologies are discussed in the Study (at 3 and 4) under IRM Study Procedures. In addition to calculating NYCA IRM requirement, these methodologies identify corresponding locational capacity requirements ("LCRs"). In its role of setting the appropriate LCRs, the NYISO considers the LCR's identified in the IRM Study. The 2012 IRM Study uses the NYISO's preliminary peak load forecast for the following summer period based on the most recent actual summer load conditions. Use of this forecast allows the NYSRC IRM and NYISO LCR studies to use comparable data.

The 2012 IRM Study also evaluated IRM requirement impacts caused by the updating of key study assumptions and various sensitivity cases.[13] The results of the comparison with the 2011-2012 IRM are depicted in Table 1 at page 14 of the Study. The results of the sensitivity cases are depicted in Table 2 at page 16 of the Study, and Table B-1 at page 57 of the Study. The base case results, the sensitivity cases, and other relevant factors provide the basis for

[13] At its meeting August 12, 2011, the NYSRC Executive Committee approved the Assumption Matrix for the 2012 IRM Study base case. The sensitivity cases for the 2012 IRM Study were approved by the NYSRC Executive Committee at its meeting on September 9, 2011. The Assumptions Matrix set forth in Appendix E at page 81 of the 2012 IRM Study.

the NYSRC Executive Committee's determination to adopt a 16.0% NYCA IRM requirement for the 2012-2013 capability year. Definitions of certain terms in the 2012 IRM Study can be found in the NYSRC Glossary in the NYSRC Reliability Rules.

2012 IRM Study Base Case Results

The base case for 2012 IRM Study calculated the NYCA IRM requirement for the period May 1, 2012 through April 30, 2013 to be 16.1%.[14] For the base case, the 2012 IRM Study also determined LCRs of 83.9% and 99.2% for New York City and Long Island, respectively.

The 2012 base case result is 0.6 percentage points higher than the base case IRM requirement determined by the 2011 IRM Study. The principal reasons for the increase in the required IRM are a 337 MW increase in wind-powered generation; updated NYCA purchase and sale capacity projections; and reduced availability of NYCA generating units, which together increased the 2011 IRM by 1.3 percentage points.

Table 1 of the IRM Study, set forth below, compares the estimated IRM impacts of changing certain key study assumptions from the 2011 IRM Study.

[14] There is a 95% probability that the base case result is within a range of 15.7% to 16.5% based on a standard error of 0.25 per unit. See Appendix A of the Study, A-1.1 Error Analysis, at 24.

Table 1: Parametric IRM Impact Comparison – 2012 IRM Study vs. 2011 IRM Study

Parameter	Estimated IRM Change (%)	IRM (%)	Reasons for IRM Changes
2011 IRM Study – Final Base Case IRM		**15.5**	
2012 Updated Parameters that Increase the IRM:			
New Wind Capacity (337 MW)	+0.5		Wind generator performance has low availability.
Updated Purchases and Sales	+0.4		Loss of sales contracts resulted in poor performing units remaining in NY.
Updated Generating Unit EFORs	+0.4		FOR increases in Downstate units higher relative to Upstate units.
Updated Cable Outage Rates	+0.1		Increase in cable FORs due to recent extended outage.
Updated Outside World Model	+0.1		Higher New England load growth relative to capacity increase results in reduced emergency assistance available to NYCA.
Total IRM Increase	**+1.5**		
2012 Updated Parameters that Decrease the IRM:			
Revised SCR model	-0.3		Improved methodology of assessing performance of SCR resources.
New Generating Capacity	-0.2		New generating capacity has higher availability relative to existing fleet.
Updated Load Forecast Uncertainty Model	-0.2		Recent historical data shows less load uncertainty in Zones J and K.
Updated Non-SCR/EDRP EOPs	-0.1		Increase in EOP capabilities in Downstate relative to Upstate.
Retirements	-0.1		Retirement of poorer performing generating units.
Total IRM Decrease	**-0.9**		
2012 Updated Parameters that do Not Change the IRM:			
Updated EDRP Capacity	0		
Updated Maintenance	0		
New Solar Capacity	0		
Updated Load Forecast	0		
Updated Existing Generating Unit Capacities	0		
Total IRM Change	**0**		
Net Change From 2011 Study		**+0.6**	
2012 IRM Study – Final Base Case IRM		**16.1**	

After considering the 2012 IRM Study results, the modeling and assumption changes made to simulate actual operating conditions and system performances, the numerous sensitivities evaluated, and based on its experience and expertise, on December 2, 2011 the NYSRC Executive Committee adopted a 16.0% IRM for the 2012-2013 capability year. The NYSRC resolution adopting the IRM is attached to these comments as Exhibit 2.

IV. CONCLUSION

Each year since its inception, the NYSRC has established a statewide annual IRM requirement that has been implemented by the NYISO. The IRM established by the NYSRC is used by the NYISO to establish installed capacity requirements for load serving entities in the NYCA, including LCRs. The IRM is a necessary component of the NYISO's installed capacity auctions. The NYISO installed capacity auction for the summer capability period is scheduled for March 28, 2012. The IRM also is used to establish installed capacity prices under the NYISO installed capacity demand curves. Given the importance of the IRM to the NYISO, load serving entities, and other NYISO market participants, it is crucial that there be no ambiguity concerning its level and effectiveness. The 2012 IRM Study is a very thorough and professional analysis and provides a very sound basis for the IRM adopted by the NYSRC for the 2012-2013 capability year.

In its order issued in the proceeding concerning the IRM for the 2011-2012 Capability Year, the Commission stated that "Given its experience and expertise in developing the IRM, the Commission gives considerable weight to the NYSRC's findings, conclusions and recommendations." [15] It is respectfully submitted that the NYSRC's IRM policies and

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[15] Commission Order Adopting Installed Reserve Margin for the New York Control Area for the 2011-2012 Capability Year, Case 07-E-0088, Case 05-E-1180, February 17, 2011, at page 9.

procedures and the 2012 IRM Study warrant the Commission's continued confidence and support.

The NYSRC respectfully recommends, therefore, that the Commission adopt the NYSRC's determination that a 16.0% IRM is the appropriate IRM for the New York control area for the capability year of May 1, 2012 to April 30, 2013.

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EXHIBIT 1

2012 IRM REPORT

EXHIBIT 2

NYSRC RESOLUTION ADOPTING THE IRM FOR THE 2012-2013 CAPACITY YEAR