



**INTERIM REVIEW**

**OF**

**RESOURCE ADEQUACY**

**COVERING THE**

**NEW YORK CONTROL AREA**

**For the years 2008 - 2011**

**As approved by NPCC's RCC on November 27, 2007**

## **EXECUTIVE SUMMARY**

This is the New York Independent System Operator (NYISO) 2007 Annual Interim Assessment of its 2006 Area Review of Resource Adequacy covering 2007 through 2011. This assessment is conducted to comply with the Reliability Assessment Program established by the Northeast Power Coordinating Council (NPCC). This assessment follows the resource adequacy review guidelines as outlined in the NPCC B-8 Document, “Guidelines for Area Review of Resource Adequacy.”

Results of this interim assessment show that the New York Control Area (NYCA) will comply with the NPCC resource adequacy reliability criterion under the Base Load Forecast with the addition of the updated transmission owner plans and market solutions identified in the NYISO 2007 Comprehensive Reliability Plan. Under the High Load Forecast, the NYCA will be in violation of the NPCC resource adequacy criterion beginning in 2010 if no further actions are taken. However, the NYISO has the authority to direct the implementation of measures that will ensure that compliance with the criterion is maintained.

The NYCA has locational Installed Capacity (ICAP) requirements for the Long Island (LI) and New York City (NYC) zones established by the NYISO. Existing and planned capacity is sufficient to meet Long Island’s current 99% locational requirement over the period. NYC has sufficient installed resources to meet the current locational capacity requirement of 80% of the local peak load in every year except 2010 and as noted above the NYCA is expected to meet NPCC resource adequacy reliability criterion in 2010.

## **INTRODUCTION**

This is the first update of the New York 2006 Triennial Review of Resource Adequacy which was approved in November, 2006.

## **ASSUMPTION CHANGES**

### **NYISO Resource Plan**

Since the 2006 New York Triennial Review was approved, the Board of Directors has approved the NYISO’s second Comprehensive Reliability Plan (CRP). A Reliability Needs Assessment (RNA), the first phase of the CRP Process, determined that additional resources would be needed over the 2007 – 2016 period to ensure compliance with the NPCC reliability criteria described in Section 3.0 of NPCC Document A-2.

The CRP contains recommendations to meet the reliability needs of the NYISO for two five year intervals, 2007 – 2011 and 2012 – 2016. It is the first of these intervals that this Interim Assessment addresses. Designated NYCA Transmission Owners (TOs) submitted plans which were sufficient to meet the reliability needs identified for 2007 – 2011.

The plan consists of the following:

1. Deferring retirement of the Charles A. Poletti generating unit in New York City from 2009 to 2010.
2. Implementing certain of the responsible TO plans, including 240 MVARs of capacitor banks at the 245 kV Millwood Substation and the replacement of a circuit breaker that will allow bypassing a series reactor between the Gowanus and Farragut substations.
3. Developing upwards of 1,800 MW of market-based resources that have been proposed for New York, at least 1,000 MW of which should be located in New York City and 500 MW of which are in the lower Hudson River valley.

## COMPARISON WITH THE 2006 TRIENNIAL REVIEW

### Resources

The 2006 Triennial Review assumed a total of 563 MW of net new capacity additions by the year 2011. As of August 2007, capacity resources totaled 40,981 MW vs. the 40,868 identified in the 2006 Triennial Review. Delays of previously planned retirements and completion of plants and other resources currently under construction will bring that number to 41,437 by the summer of 2009. That number will increase further to 41,599 MW by the summer of 2011.

To be consistent with studies conducted for the New York State Reliability Council (NYSRC), firm purchases are not included as resources for this assessment. In the summer of 2007, for example, there were over 2,533 MW of external ICAP purchases were accepted in the NYCA market.

The installed capacity comparisons between the 2006 Review and this Interim Review are shown in the following summary table:

**Table 1. Installed Capacity Comparison**

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Year	2006 Triennial Review (MW)	2007 Interim Review (MW)	Difference (MW)
2007	40,868	40,981	113
2008	41,866	40,583	-1,283
2009	41,431	41,437	6
2010	41,431	40,549	-882
2011	41,431	41,599	168

## Load

Table 2 compares the NYCA Base and High Load Forecast used in this assessment with those used in the 2006 Triennial Review. The load forecast used in the Interim Review is the same as that used in the 2006 Triennial Review. (Since then, a new forecast has been issued in the 2007 NYISO Load and Capacity Report which is approximately 480 MW lower in 2011.)

**Table 2. Reference Peak Load Forecast Comparison**

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	Base Case Load Forecast		High Load Forecast	
Year	2006 Triennial Review (MW)	2007 Interim Review (MW)	2006 Triennial Review (MW)	2007 Interim Review (MW)
2007	33,831		34,035	
2008	34,314	No	34,595	No
2009	34,688	Change	35,049	Change
2010	35,042		35,496	
2011	35,348		35,904	

## Transfer Limits

The sub-area representation modeled in the 2007 Interim Review has been modified when compared to the 2006 Triennial Review. The effects of the transmission system upgrades described in the second element of the CRP (above) result in improved transfer capability into New York City and Long Island, the load areas that account for most of the reliability risk in the New York Control Area.

Tables 3a and 3b show the transfer limits for the critical NYCA interfaces that were used in the 2006 Triennial Review and this Interim Review:

**Table 3a. Key Transmission Interface Limits – 2006 Triennial Review (MW)**

Year	Central East+Frazier Gilboa	F - G	UPNY - SENY	I - J	I - K
2007	3,150	3,450	5,150	3,700	1,270
2008	3,150	3,450	5,150	3,700	1,270
2009	3,150	3,450	5,150	3,700	1,270
2010	3,150	3,450	5,150	3,700	1,270
2011	3,150	3,450	5,150	3,700	1,270

**Table 3b. Key Transmission Interface Limits – 2007 Interim Review (MW)**

Year	Central East+Frazier Gilboa	F - G	UPNY - SENY	I - J	I - K
2007	3,150	3,720	5,000	3,700	1,290
2008	3,150	3,720	5,000	3,864	1,290
2009	3,150	3,720	5,000	3,791	1,290
2010	3,150	3,720	5,000	3,741	1,290
2011	3,150	3,720	5,000	4,100	1,290

The Interim Review also reflects the installation of a controllable DC cable between Long Island and New Jersey (660 MW). This was not modeled in the 2006 Triennial Review.

### **Fuel Supply Diversity**

The NYISO currently enjoys the benefits of a diverse fuel supply for its capacity resources. Future resources, however, are projected to be fueled primarily by natural gas. Despite an increase in dependency on natural gas as a fuel source, those units in critical areas, such as New York City, are required to have a back-up fuel supply available. Further, since the NYCA is a summer peaking Area and the availability of gas supply is adequate during summer months, the NYISO does not foresee shortages or potential interruptions as problematic over this study period.

### **New Market Rules**

The NYISO and its stakeholders have implemented the CRP Process, which was approved by FERC in 2004. This Process is the focal point of long-term reliability analysis and planning. It enables the NYISO to identify reliability needs, obligates TOs to develop plans to address them, solicits market-based solutions and develops regulatory backstop solutions should others not appear adequate.

The CRPP provides a single procedure through which long-term reliability needs are identified and addressed, coordinating the several individual processes which existed previously.

### **Locational Requirements<sup>1</sup>**

Locational requirements are set annually by the NYISO and currently exist at 80% for NYC and 99% for LI. In 2010, when NYC falls below its locational requirement, the other areas in New York are expected to have sufficient resources available to meet reliability needs. In 2010, NYC's shortfall is not critical because statewide resources are sufficient to meet the NPCC loss of load criterion.

## **RESULTS AND CONTINGENCY PLAN**

The RNA, the initial part of the CRPP, identified that under a high load growth scenario, the NYCA would not meet the NPCC LOLE criterion in 2010 and 2011. However, the RNA analysis, from which the 2007 Interim Report High Load Forecast LOLEs are taken, did not include the resource solutions adopted in the CRP, the source of the 2007 Interim Base Case Forecast LOLEs. (Therefore, the differences in LOLEs between the

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<sup>1</sup> Locational requirements are revised annually. With the addition of a new 345 KW cable between Sprainbrook and Sherman Creek (M29) in late 2009, the NYC and Long Island locational requirements could decrease.

2007 Interim Base Case and 2007 Interim High Load Forecasts reflect resource as well as load forecast differences.)

This is illustrated in Table 4:

Year	Base Case Load Forecast		High Load Forecast	
	2006 Triennial	2007 Interim	2006 Triennial	2007 Interim
2007	0.0230		0.0230	
2008	0.0050	0.0100	0.0090	0.0200
2009	0.0280	0.0200	0.0510	0.1000
2010	0.0530	0.0400	0.0910	0.1700
2011	0.0850	0.0000	0.1520	0.2600

Should a violation of reliability criteria appear likely, the NYISO Board of Directors has the authority to direct the responsible TOs to implement a gap solution that will address the problem in a timely manner. The gap solution may include DSM, operating procedures or other short-lead time measures, as needed.

The adoption of a lower load forecast in the recently begun planning cycle mitigates the likelihood that the High Load Forecast scenario will eventuate.

## CONCLUSION

The NYCA will meet the NPCC Resource Adequacy Criterion under both Base Case and High Load Forecast assumptions through the year 2009. In the High Load Forecast scenario, it will not meet the criterion thereafter under the very conservative resource assumptions used in the RNA.

The NYISO market design has resulted in more than 2,700 MW of external resources participating in the New York capacity market on an ongoing basis. Even though participation is expected to continue, this report does not include these resources in its projections or findings.