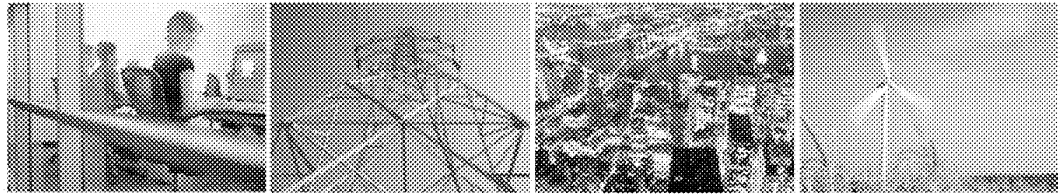




2010 Comprehensive Reliability Plan



New York Independent System Operator

FINAL REPORT

JANUARY 11, 2011

EXECUTIVE SUMMARY

The 2010 Comprehensive Reliability Plan (CRP) is the fifth CRP completed by the NYISO. Like its predecessors, this CRP report presents a plan for a reliable New York State Power System. This result is predicated on a number of study assumptions coming to fruition including projected load levels, supply-side resources, and transmission facility additions and upgrades that are the result of projects by independent developers and Transmission Owner (TO) plans. This plan relies on vigilant monitoring of uncertainties related to potential retirements of existing resources and to other factors. The following additional major components are incorporated in this plan:

1. Implementation of the local TO plans, which includes the addition of 10 miles of new 345 kV cable between Sprain Brook in Westchester County and Sherman Creek in the Borough of Manhattan in New York City as well as the addition of numerous transmission facilities and upgrades to existing transmission facilities throughout New York State ranging between the 115 kV and 345 kV voltage levels. Table 3-4 of the 2010 Reliability Needs Assessment (RNA) contains a detailed list of these facilities.
2. Development of 1728 MW of new thermal generating facilities interconnecting within the NYCA that satisfy the NYISO's base case inclusion criteria. These plants are comprised of the following:
 - a) The 635 MW Empire Generating Plant in Zone F
 - b) The 550 MW Astoria Energy II in Zone J
 - c) The 513 MW Bayonne Energy Center connecting from New Jersey to Zone J
 - d) Two smaller generating projects totaling 30 MW (24 MW in Zone J and 6 MW in Zone A)
3. Projected demand response registration in the NYISO's ICAP/SCR market totaling 2251 MW.
4. Existing generating unit updates that satisfy the NYISO's base case inclusion criteria totaling 204 MW. These updates include the following:
 - a) The Nine Mile 2 nuclear plant – 168 MW
 - b) The Gilboa pumped storage Unit 4 – 30 MW
 - c) The Munnsville Wind update – 6 MW
5. The achievement of the energy efficiency gains which are included in the RNA forecast as peak load and energy reductions.

The 2010 CRP report has considered the uncertainties associated with both the aging infrastructure and the numerous significant environmental initiatives which could cause the retirement of critical system

2.2 2010 RNA Summary

The 2010 RNA (see Appendix A) indicated that the planned baseline system as studied meets applicable Reliability Criteria for the next 10 years, from 2011 through 2020. As a result, the 2010 RNA, like the 2009 RNA, does not identify any Reliability Needs. Therefore, the NYISO did not initiate a request for market based or regulated solutions. The primary factors for the 2010 RNA's finding of no Reliability Need are reduced econometric forecasts of load growth, increased energy efficiency projections, an increase in planned resources in the 2010 RNA including special case resources (SCR) when compared to the 2009 RNA, and minimal generator retirements over the ten year planning horizon.

Table 2-1 below summarizes the impact of the lower load forecast level resulting from economic circumstances, State public policy programs, increased generator additions, lower scheduled retirements and additional SCR program participation.

Table 2-1: Comparison of Load Forecast 2009 vs. 2010 RNA

	2009 RNA Horizon Year 2018	2010 RNA Year 2018	Delta Year 2018	2010 RNA Horizon Year 2020
NYCA Load	35,658	34,672	-986	35,334
SCRs	2,084	2,210	126	2,251
Capacity without SCRs	40,452	41,239	787	41,239

The 2010 RNA load forecast, resource additions, SCR registrations, and generator retirements are summarized below. In addition, a discussion of the transmission security analysis conducted in the 2010 RNA, which forms the basis for the findings and recommendations contained in this CRP, is presented. A more detailed discussion can be found in the 2010 RNA Report, which was approved by the NYISO Board of Directors and released on September 22, 2010.

2.2.1 Lower Energy Forecast – two primary factors

1. **The 2009 Recession:** The effect of the 2009 recession was to reduce the peak demand forecast for 2011 by 1400 MW, before subtracting any energy efficiency impacts. This also reduced the projections of peak load in subsequent years.
2. **Statewide Energy Efficiency Programs:** This refers to the Governor's initiative to lower energy consumption on the electric system by 15% of the 2007 forecast for levels in 2015, which is otherwise known as the 15 by 15 initiative and is inclusive of the Public Service Commission's Energy Efficiency Portfolio Standard (EEPS). After extensive input from market participants, state regulators and other interested parties, the NYISO's projection of the energy savings associated with these energy efficiency programs was based upon multiple factors, including actual spending levels for PSC-approved programs, intended commitments to increase spending after 2011, actual implementation rates, expected participation and realization rates, and the energy efficiency plans developed by the New York TOs. The projections show an increase in

energy savings of 2805 GWh when compared to the 2009 RNA. The 2009 RNA included cumulative energy savings of 10,235 GWh by 2018. In the 2010 RNA, this value increased to 13,040 GWh by the year 2018 and to 13,684 GWh by the year 2020.

The 2010 RNA Base Case forecast reflects larger usage reductions due to energy efficiency than the 2009 RNA Base Case forecast. Each of those base case forecasts was created by subtracting a projected energy efficiency impact from the respective current econometric forecast. For example, in the case of the 2009 RNA Base Case energy forecast for 2015, 8086 GWh in projected energy savings were subtracted from the econometric energy forecast to reach the base case forecast. In the 2010 RNA, for the year 2015, 9914 GWh were subtracted from the current econometric forecast.

2.2.2 Generation Additions

Two new proposed generating plants totaling 1063 MW located in Zone J are included in the 2010 RNA Base Case, but were not included in the 2009 RNA base case. These proposed interconnection projects are listed as numbers 232 and 308 on the NYISO interconnection queue. Queue number 232 is the Bayonne Energy Center, a simple-cycle natural gas-fired plant that has a nameplate capacity of 513 MW and is scheduled to be in service by June 2011.⁵ Queue number 308 is the Astoria Energy II gas-fired combined cycle plant that has a nameplate capacity of 550 MW and is also scheduled to be in service by June 2011. Lastly, the base case includes the recently completed gas-fired 635 MW combined cycle Empire Generating plant, two smaller generating units totaling 30 MW, and uprates to existing generating units totaling 204 MW.

2.2.3 Increased Registration in Special Case Resources (SCR)

The NYISO continues to experience increases in the registration of resources in its SCR program that supply capacity resources to the system through the NYISO market. The NYISO has projected registrations of 2251 MW of SCRs, an increase of 167 MW of resources over the SCR levels included in the 2009 RNA.

2.2.4 Retirements and Other Generator Announcements

The 2010 RNA includes the retirement of two units in Zone C — the 52 MW coal fired Greenidge Unit 3 and the 40 MW coal fired Westover Unit 7. As result, the net increase in retirements in the 2010 RNA Base Case compared to 2009 RNA is 92 MW.

The NYISO received notification, dated October 25, 2010, of the planned retirement of Project Orange Units 1 and 2 pursuant to NYPSC's Generator Retirement Notice Order. The notice also includes a request for the PSC to waive the 180 day written notice of retirement and approve the retirement effective on or before November 13, 2010.

⁵ Subsequent to the completion of the 2010 RNA, the in-service date of the Bayonne Energy Center has been updated to November 2011.