

REVIEW OF THE 2009 NEW YORK STATE ENERGY PLAN (SEP)

Installed Capacity Subcommittee – April 5, 2010

I. NEW YORK STATE ENERGY PLAN HIGHLIGHTS

Under the SEP there are many recommendations that could affect the reliability of the NY electric system if they are implemented. Almost all of them would have a negative affect that could result in a higher IRM and other reliability impacts. They include more renewable generation, time of day metering and environmental regulations. The environmental regulations could lead to the retirement of generating units in Southeast NY.

II. SPECIFIC RELIABILITY-RELATED ISSUES INCLUDED IN THE PLAN

The implementation of the SEP is outlined in chapters one through six of the plan. The following highlights those items which may have a significant effect on the reliability of the NYCA system.

Chapter 2: Produce, Deliver, and Use Energy More Efficiently.

- **Use electricity price signals to help level load and reduce generation requirements.** If taken to an extreme, a system with a very high load factor would probably require a higher installed reserve requirement.
- **Encourage energy storage deployments.** More energy storage would make it easier to implement solar and wind technologies.

Chapter 3: Support Development of In-State Energy Supplies.

- **Expand the Renewable Portfolio Standard (RPS) Program to meet the Governor's goal to meet 30 percent of the State's electricity needs with renewable resources by 2015.** The addition of a large number of low availability resources would have a negative effect on system reliability.
- **Examine the transmission system to identify and evaluate bulk transmission system upgrades or expansions needed for reliability.** The problem would be in the implementation of any additional transmission requirements identified.
- **Encourage the State's power authorities (LIPA and NYPA) to procure diverse renewable electricity resource development.** This could become a problem if a large amount of less reliable generation is added.
- **Encourage LIPA and NYPA to proceed with issuing an RFP for the private development of offshore wind resources.** Same as above.

Chapter 4: Invest in Energy and Transportation Infrastructure. Take steps to address climate change.

- **Develop a Climate Action Plan in accordance with Executive Order 24.** Very much an unknown of unintended consequences (e.g. mass generation retirement).

- **Develop a fuel neutral power plant siting law that provides greater market certainty to developers and investors and enhances public participation with sufficient intervenor funding.** Should in theory, be a positive change.
- **Develop legislation that addresses CO2 pipeline siting and CO2 injection to facilitate the demonstration of Carbon Capture and Sequestration technology.** Might force early retirement of generation.
- **Encourage and facilitate the repowering and replacement of existing electric generation to increase energy efficiency and reduce overall actual emissions and environmental impacts.** Might force early retirement of generation.
- **Complete the New York State Transmission Assessment and Reliability Study to identify the long term transmission reliability needs of the New York Control Area.** Similar to chapter 3, but includes distribution system. The problem would be in the implementation of any additional transmission requirements identified
- **LIPA to implement a \$500 million, 20 year program to reduce electrical transmission and distribution system exposure to severe storms.** Would make the system more reliable, but why not all of NYCA and who will pay for it?
- **Amend PSL Article VII to indicate State or local approvals shall apply in connection with the Uniform Fire Prevention and Building Code.** Potential to hinder the process.
- **Investigate use of existing rights of way. Inventory existing transportation corridor rights-of-way that could be used for new energy infrastructure facilities and existing utility corridors that are underutilized or could be re-configured to accommodate new facilities.** This is not a new initiative.

Chapter 5: Stimulate Innovation in the Clean Energy Economy. Support clean energy technology development. Most items in this chapter are not aimed at the electric utilities.

- **Ensure that any national carbon cap and trade program provides the states with the flexibility to invest auction proceeds into accelerating the market introduction of next generation/emerging clean energy technologies.** May cause some problems.

Chapter 6: Engage Others in Achieving the State's Policy Objectives.

- **Collaborate regionally to advance the State's clean energy goals.** Develop a New York offshore ocean plan to identify appropriate areas for renewable energy development and transmission, in coordination with neighboring states and federal agencies. Similar to chapter 3.

State Energy Planning Board Study: NYISO Input and Reliability Analysis

As part of the Energy Plan, an extensive, multi-part computer modeling effort was undertaken to assess the effects of policies and programs recommended for adoption on a range of factors relevant to decision-makers. Among them are: the cost of electricity and capacity; forecasted changes in the electricity and natural gas systems including the transfer capabilities of the transmission grid, and emission levels of greenhouse gases and other pollutants.

The NYISO supported the State’s development of the computer modeling effort by providing several technical white papers and reviewing the model assumptions and results.

The State Energy Planning Board (SEPB) Study developed two reference cases (SEPB RNA and SEPB 15 x 15) and two scenarios (Upstate Nuclear and 30% RPS).

The SEPB RNA reference case assumed 5000 MW of added capacity/repowering and 1300 MW of retirements by 2018 beyond what was included in the NYISO 2009 RNA. The SEPB Plan 15 x 15 reference case assumed 4500 MW of added capacity/repowering and 2300 MW of retirements by 2018 beyond what was included in the NYISO RNA. Wind is approximately 3600 MW of the repowering for both cases.

The SEPB RNA reference case utilized the load forecast used in the NYISO 2009 RNA base case which assumed that approximately 30% of the EEPS would be achieved. The NYS Energy Plan 15 x 15 reference case used a load forecast assuming that the full 15 x 15 EEPS is achieved.

The upstate nuclear scenario used both the RNA load forecast and the 15 x 15 load forecast. The upstate nuclear scenario included an additional 1600 MW of nuclear capacity in 2018 located upstate and 2500 MW of retirements beyond what was included in the NYSIO 2009 RNA.

The 30% RPS scenario used the RNA load forecast.. This scenario is similar to the upstate nuclear scenario except that only 1900 MW of retirement is included and an additional 3600MW of wind was added.

Four study years (2009, 2012, 2015 and 2018) were evaluated in MARS to determine the NYCA and Zonal LOLEs for each reference case and scenario model.

The summary of the results are shown in the following table:

| | LOLE Results |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State Energy Planning Board (SEPB) RNA Case | No violation |
| SEPB 15 x 15 Case | No violation if full 15 x 15 EEPS is achieved. A violation in 2012 may occur if only 30% of the EEPS is achieved. |
| Scenario 1: Upstate Nuclear | SEPB RNA Case: A violation occurs in 2018 if both Roseton Units are retired. No violation occurs if at least one Roseton unit remains in-service. SEPB 15 x 15 Case: No violation if full 15 x 15 EEPS is achieved. A violation in 2012 may occur if only 30% of the EEPS is achieved. |
| Scenario 2: 30% Renewable Portfolio Standard | No violation |

III. SEP RECOMMENATIONS THAT SHOULD BE MONITORED BY THE NYSRC

The SEP includes an Implementation Plan which includes 122 recommendations/action plans. They are located in the SEP report starting on page 100. Below are 13 of these recommendations that the NYSRC should monitor. NYSRC Members and Participants are lead or supporting agencies for all 13 recommendations (LIPA, NYPA, DPS, and NYSERDA).

| | SEP Recommendation/Action Plan | Lead Agencies |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1 | Continue implementation of efficiency programs to meet '15 by 15' goal | Executive Chamber (Supporting agencies: DPS, LIPA, NYPA, and NYSERDA) |
| 2 | Work with the Smart Grid Consortium to develop action plans | DPS, LIPA, NYPA, NYSERDA, and NYSTAR |
| 3 | Expand the RPS Program to meet the Governor's goal to meet 30 percent of the State's electricity needs with renewable resources by 2015 | PSC |
| 4 | Examine the transmission system to identify and evaluate bulk transmission system upgrades or expansions needed for reliability | NTPA and PSC |
| 5 | NYPA and LIPA will report on the status of renewable energy projects in progress | LIPA and NYPA |
| 6 | NYPA and LIPA will report on the total energy production capacity provided by renewable energy initiative projects including the electric capacity installed using renewable energy and purchased attributes by NYPA or on behalf of customers | LIPA and NYPA |
| 7 | LIPA and NYPA will pursue development of large scale solar projects | LIPA and NYPA |
| 8 | Report on status of offshore wind projects | LIPA and NYPA |
| 9 | The Long Island-New York City Offshore Wind Collaborative will issue a RFP for development of offshore wind facility off the Rockaway Peninsula | LIPA and NYPA |
| 10 | Examine the protocols used by NYISO and utilities for connecting distributed generation sources to the grid | DPS |
| 11 | Adopt where practicable a regional low carbon fuel standard | DEC and NYSERDA |
| 12 | Encourage and facilitate the repowering and replacement of existing electric generation to increase energy efficiency and reduce overall actual emissions and environmental impacts | DEC, DPS and NYPA |
| 13 | Complete the New York State Transmission Assessment and Reliability Study to identify the long term transmission reliability needs of | Supporting agencies: DPS, LIPA and NYPA |

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| | the New York Control Area | |
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IV. NEED FOR NEW NYSRC RELIABILITY RULES

One of the issues ICS examined in its review of the SEP was whether any new reliability rules should be considered by the NYSRC. Our analysis concluded that no new rules need to be considered this time as a result of SEP actions.

V. RECOMMENDED NYSRC ACTIONS

An examination of the SEP issues and recommendations in Sections II and III shows that there are many SEP initiatives that may impact NYCA reliability and result in increased future IRM requirements. Accordingly, ICS recommends the following actions:

1. The need for ICS to complete the NYSRC Horizon Year Study is of importance. The Study should include consideration of the various actions addressed in the SEP that could impact IRM.
2. Continued ad hoc working group meetings with the DEC should be encouraged by the Executive Committee. Review of the SEP indicates that there are several recommendations that may result in additional environmental regulations that could impact NYCA reliability and IRM requirements. These meetings not only provide a forum to receive updates on emerging regulations, but also provide an opportunity to communicate potential reliability impacts.

