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TO: NYPA BOARD OF TRUSTEES  
FROM: EDWARD WELZ, ACTING CHIEF OPERATING OFFICER  
DATE: OCTOBER 25, 2011  
SUBJECT: MONTHLY REPORT FOR THE BOARD OF TRUSTEES

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This report covers performance of the Operations group in September. NYPA's generating assets outperformed projections and transmission reliability was also high for the month. In September, NYPA's Research & Technology Development was realigned to report directly to the Chief Operating Officer.

## Power Supply

### *Plant Performance*

Systemwide net generation<sup>1</sup> was 2,407,462 megawatt-hours<sup>2</sup> (MWh) in September, compared to projected net generation of 2,086,347 MWh. Year-to-date net generation is 20,614,663 MWh, compared to the target of 19,004,554 MWh.

The fleet availability factor<sup>3</sup> was 99.6 percent in September and is 97.0 percent for the year. Generation market readiness factor<sup>4</sup> was 100.0 percent in September, compared with the monthly target of 99.4 percent. Year-to-date generation market readiness factor is 99.9 percent.

There were no significant unplanned generation events<sup>5</sup> in September.

Generation revenue in September was \$184.5 million, with \$0.05 million revenue lost from unscheduled outages. Year-to-date lost opportunity cost is \$1.96 million, about 0.13 percent of year-to-date generation revenue of \$1,560.0 million.

River flows at the Niagara Power Project were greater than forecast in September, and are forecast to be above average through the beginning of 2012. At the St. Lawrence-FDR

Power Project, flows were also greater than forecast in September, and are expected to be at historical average levels in 2012.

### *Transmission Performance*

Transmission reliability<sup>6</sup> in September was 99.35 percent, which was above the target of 98.90 percent. Year-to-date transmission reliability is 98.33 percent, below the target of 98.71 percent.

There were no significant unplanned transmission events<sup>7</sup> in September.

### *Environmental*

There was one reportable event in September. At the 500-MW Combined Cycle Plant, a release of an unknown quantity of R-22 refrigerant<sup>8</sup> resulted from a failed fitting on the oil injection line of chiller No. 1, exceeding the NYS Department of Environmental Conservation (NYSDEC) Reportable Quantity limit (1 pound).

In addition, an adjustment has been made for two previously non-reported events in August. They include a release of 4 lbs. of R-22 refrigerant associated with a leaking valve on an air conditioning unit at the Niagara Power Project, and a release of approximately 17 lbs. of R-22 from the switchyard air conditioning unit at the Blenheim-Gilboa Pumped Storage Power Project.

Year-to-date number of recordable environmental incidents is 29; the 2011 target is 25.

### *Relicensing – Niagara Power Project*

Work on the Beaver Island Habitat Improvement Project was completed in September. A construction contract was awarded to Ciminelli Construction to perform work associated with the Recreation Enhancement project at the Schoellkopf and Whirlpool Overlooks. Ciminelli held a kick off meeting to begin the project.

### *Relicensing – St. Lawrence-FDR Power Project*

Permits were obtained from the Army Corp of Engineers for the Little Sucker Brook Habitat Improvement Project. At Coles Creek, permits were obtained and invasive species control work was performed. A contract was awarded to Perras Construction to construct two new fishing piers in Waddington that will be compliant with the Americans with Disabilities Act.

### *Technical Compliance – NERC Reliability Standards*

In September, NYPA provided the Northeast Power Coordinating Council (NPCC)<sup>9</sup> with minor comments on the final report of the Federal Energy Regulatory Commission<sup>10</sup> (FERC) Order 706 audit for Critical Infrastructure Protection<sup>11</sup> (CIP) standards at the Clark Energy Control Center and Niagara Power Project. The final reports of the FERC Order 706 and FERC

Order 693 audit (non-CIP standards) of NYPA are expected to be completed and filed with the North American Electric Reliability Corporation<sup>12</sup> (NERC) in October. As stated in the September COO Report, there were no findings of potential violations from either audit – a significant accomplishment.

Pursuant to FERC Order 743, NERC established a Standard Drafting Team to develop a new Bulk Electric System (BES) definition and a Rules of Procedure Team to develop rules of procedure for an exception process. NYPA's internal team of subject matter experts continues to monitor the work of both of these teams. In August, the second draft of the new BES Definition and Implementation Plan was posted for a 45-day ballot pool and comment period and a 10-day ballot period. The Rules of Procedure, which addresses the process for requesting BES exceptions, was posted for stakeholder comment and ballot in September. NYPA has prepared comments on the BES definition and will submit these comments with its vote on or before the ballot deadline of October 10.

Representatives from the New York Independent System Operator<sup>13</sup> (NYISO) and the New York Transmission Owners continue to work together to plan for obligations that could result from the revised BES definition. Preliminary estimates of possible cost and resource implications to meet the obligations of the Reliability Coordinator and Transmission Operator functions, using three evaluated options of registration models, were completed following a high level review of the requirements within the current applicable NERC Standards. The team is also assessing the impacts of the Transmission Planning functions of the standards. The general consensus is that compliance may require significant increases in resources to manage the long-term operational and compliance requirements. However, the analysis remains insufficient to inform a recommendation. The team agreed to review the requirements in more detail and identify what additional steps are required to achieve a recommendation. The team met at the NYISO on September 30 to further discuss required actions and next steps.

### *Research & Technology Development*

In September, Research & Technology Development (R&TD) initiated a project related to the study of the hydrokinetics<sup>14</sup> effects of installing micro hydro turbines downstream of a hydro plant to ascertain the impact on plant operation. Also, NYPA started working with the Electric Power Research Institute<sup>15</sup> (EPRI) and a number of other utilities on a project dealing with the impacts of turbine/generator cycling on components at the 500-MW Combined Cycle Plant. R&TD, working with Asset Management, successfully completed the upgrades of the Sound Cable Project cathodic protection system<sup>16</sup> that will ensure longevity of the underwater portion of this important NYPA asset.

### Energy Resource Management

#### *NYISO Markets*

In September, Energy Resource Management (ERM) bid more than 2.4 million MWh of NYPA generation into the NYISO markets, netting \$53.7 million in power supplier payments to the Authority. Year-to-date net power supplier payments are \$430.2 million.

### *Fuel Planning & Operations*

In September, NYPA's Fuels Group transacted \$24.5 million in natural gas and oil purchases, compared with \$14.2 million in September 2010. Year-to-date natural gas and oil purchases are \$207.4 million, compared with \$169.1 million at this point in 2010. The total year-to-date \$38.3 million increase is mainly attributed to the start up of the Astoria Energy II Plant (+\$30.8 million), increased fuel cost at the 500-MW Combined Cycle Plant (+\$3.8 million), and increased generation at the Small Clean Power Plants (+\$6.3 million) and the Richard M. Flynn Power Plant (+\$10.0 million), which was offset by cessation of operations at the Poletti Power Project (-\$12.6 million, the last day of operations was January 31, 2010).

### *Regional Greenhouse Gas Initiative*

On September 7, Auction 13 of the Regional Greenhouse Gas Initiative<sup>17</sup> was held. During the auction, Vintage 2011 allowances cleared at the auction price floor of \$1.89/ton for the third straight quarterly auction this year. NYPA bid into and was awarded 500,000 tons of Vintage 2011 allowances during the September auction. The total amount of allowances secured through RGGI auctions year-to-date represents approximately 95% of NYPA's current estimated allowance requirement for all plants in 2011. Since the inception of this program, NYPA has spent \$19.7 million on 8.2 million RGGI allowances, or \$2.39/ton on average. With one auction remaining in 2011, NYPA has spent \$1.89/ton on average for Vintage 2011 allowances.

## GLOSSARY

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<sup>1</sup> **Net Generation** – The energy generated in a given time period by a power plant or group of plants, less the amount used at the plants themselves (station service) or for pumping in a pumped storage facility. Preliminary data in the COO report is provided by Accounting and subject to revision.

<sup>2</sup> **Megawatt-hour (MWh)** – The amount of electricity needed to light ten thousand 100-watt light bulbs for one hour. A megawatt is equal to 1,000 kilowatts and can power about 800 homes, based on national averages.

<sup>3</sup> **Availability Factor** – The Available Hours of a generating unit over the Period Hours (hours in a reporting period when the unit was in an active state). Available Hours are the sum of Service Hours (hours of generation), Reserve Shutdown Hours (hours a unit was not running but was available) and Pump Hours (hours a pumped storage unit was pumping water instead of generating power).

<sup>4</sup> **Generation Market Readiness Factor** – The availability of generating facilities for bidding into the New York Independent System Operator (NYISO) market. It factors in available hours and forced outage hours that drive the results.

<sup>5</sup> **Significant Unplanned Generation Events** – Forced or emergency outages of individual generator units of duration greater than 72 hours, or with a total repair cost of greater than \$75,000, or resulting in greater than \$50,000 of lost revenues.

<sup>6</sup> **Transmission Reliability** – A measurement of the impact of forced and scheduled outages on the statewide system's ability to transmit power.

<sup>7</sup> **Significant Unplanned Transmission Events** – Forced or emergency outages of individual transmission lines that directly affect the reliability of the state's transmission network, or affect the availability of any component of the state's transmission network for greater than eight hours, or have a repair cost greater than \$75,000.

<sup>8</sup> **R-22 Refrigerant** – Common refrigerant used in residential and light commercial air conditioning, refrigerators, and freezers. R-22 is being phased out of production in the U.S. because of concerns over its threat to ozone depletion.

<sup>9</sup> **Northeast Power Coordinating Council (NPCC)** – The Northeast Power Coordinating Council, Inc. (NPCC) is the cross-border regional entity and criteria services corporation for Northeastern North America. NPCC's mission is to promote and enhance the reliable and efficient operation of the international, interconnected bulk power system in Northeastern North America pursuant to an agreement with the Electric Reliability Organization (ERO) which designates NPCC as a regional entity and delegates authority from the U.S. Federal Energy Regulatory Commission (FERC), and by Memoranda of Understanding with applicable Canadian Provincial regulatory and/or governmental authorities. The ERO to which NPCC reports is the North American Electric Reliability Corporation (NERC).

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<sup>10</sup> **Federal Energy Regulatory Commission (FERC)** – An independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects.

<sup>11</sup> **Critical Infrastructure Protection (CIP)** – The Critical Infrastructure Protection (CIP) program coordinates all of the North American Electric Reliability Corporation’s (NERC) efforts to improve physical and cyber security for the bulk power system of North America, as it relates to reliability. These efforts include standards development, compliance enforcement, assessments of risk and preparedness, disseminating critical information via alerts to industry, and raising awareness of key issues.

<sup>12</sup> **North American Electric Reliability Corporation (NERC)** – The organization that develops and enforces mandatory reliability standards for the bulk power system in the United States, issues long-term and seasonal reliability forecasts and monitors the power system. (NERC standards are also mandatory and enforceable in parts of Canada.)

<sup>13</sup> **New York Independent System Operator** – A not-for-profit organization that operates New York State’s transmission system, administers the state’s wholesale electricity markets, and engages in planning to ensure the future reliability of the statewide power system.

<sup>14</sup> **Hydrokinetics** – The study and development of harnessing energy from water movement, as in through waves, tidal streams, natural flow of rivers and underwater ocean currents. Hydrokinetic turbines operate on the principle of turning directional power into rotational power by using a certain amount of surface area to come into contact with the fluid’s movement over a period of time in order to harness as much power as possible.

<sup>15</sup> **Electric Power Research Institute (EPRI)** – An independent, nonprofit organization that conducts research and development relating to the generation, delivery and use of electricity for the benefit of the public. EPRI brings together its scientists and engineers as well as experts from academia and industry to help address challenges in electricity, including reliability, efficiency, health, safety and the environment. EPRI also provides technology, policy and economic analyses to drive long-range research and development planning, and supports research in emerging technologies. The Power Authority has long been active in EPRI and has collaborated with the organization on a number of major initiatives.

<sup>16</sup> **Cathodic protection system** – NYPA’s cathodic protection system for the Sound Cable Project consists of a series of sensors in Long Island Sound and control devices at nearby transition.

<sup>17</sup> **Regional Greenhouse Gas Initiative (RGGI)** – A cooperative effort by Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. These nine states have capped CO<sub>2</sub> emissions from the power sector, and will require a 10 percent reduction in these emissions by 2018. RGGI is composed of individual CO<sub>2</sub> Budget Trading Programs in each of the nine participating states. Regulated power plants can use a CO<sub>2</sub> allowance issued by any of the nine participating states to demonstrate compliance with the state

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program governing their facility. Taken together, the nine individual state programs function as a single regional compliance market for carbon emissions, the first mandatory, market-based CO<sub>2</sub> emissions reduction program in the United States. New Jersey was a tenth state within the RGGI program but New Jersey's governor has announced that the state is being pulled out of the program.