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TO: NYPA BOARD OF TRUSTEES
FROM: EDWARD WELZ, ACTING CHIEF OPERATING OFFICER
DATE: JANUARY 17, 2011
SUBJECT: MONTHLY REPORT FOR THE BOARD OF TRUSTEES

This report covers performance of the Operations group in December.

Power Supply

Plant Performance

Systemwide net generation¹ was 2,759,664 megawatt-hours² (MWh) in December, compared to projected net generation of 2,343,060 MWh. Year-to-date net generation is 28,136,311 MWh, compared to the target of 25,611,851 MWh.

The fleet availability factor³ was 91.0 percent in December and is 96.5 percent for the year. Generation market readiness factor⁴ was 100.0 percent in December, 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 events⁵ in December.

Generation revenue in December was \$155.3 million, with no loss of revenue for the month. Year-to-date lost opportunity cost is \$2.31 million, about 0.12 percent of year-to-date generation revenue of \$2,007.4 million.

Niagara River flows in December 2011 were above the historical average. They are expected to be above average in the beginning of 2012. St. Lawrence River flows during December 2011 were above forecast. River flows are expected to be at or above historical levels average for 2012.

Transmission Performance

Transmission reliability⁶ in December was 93.76 percent, which was below the target of 98.53 percent. Year-to-date transmission reliability is 96.71 percent, below the target of 97.71 percent.

There were four significant unplanned transmission events⁷ in December that affected the transmission reliability measure. The two forced outages were: Y-49 Feeder tripped on a B Phase fault; Marcy Cap #2 tripped on blown fuses. The two emergency outages were: Marcy Cap #2 was repaired for a phase imbalance; Marcy STACOM had repairs for coolant leaks.

Environmental

There were three reportable events for December.

Year-to-date number of recordable environmental incidents is 34; the 2011 target is 27.

Relicensing – Niagara Power Project

A non-capacity license amendment application was prepared and submitted to FERC for the LPGP LEM program.

Interior construction work continues at Reservoir State Park including completion of new Winter Pavilion for turnover to OPRHP by February 1.

Bids were received for the construction of the Motor Island HIP recommendation for award has been prepared and placed on the January Trustee meeting agenda.

NYPA submitted a request to recipients of the Niagara Relicensing Host Community Settlement Fund asking for a description of projects that were funded and undertaken under the settlement agreement.

Relicensing – St. Lawrence-FDR Power Project

An award recommendation and trustee item has been placed on the January Trustee meeting agenda for the construction of the Little Sucker Brook Habitat Improvement Project.

NYSDEC approval for a temporary cofferdam will allow the installation of the discharge pipe installation for WHWMA pump house the construction of which continues through this winter.

The 2011-2012 shoreline erosion stabilization work continues through this winter.

Relicensing – Blenheim-Gilboa Project

Began tasks associated with the review and acquisition of existing information to assist in the preparation of the Preliminary Application Document (PAD).

Transmission Initiative

With the decision to move ahead with the HTP project, the economic benefits of the Transmission Initiative (“TI”) were substantially reduced and a decision was made to suspend work on the TI into NYC. Studies with National Grid on an HVDC line to a point north of NYC, using PA Consulting and EIG Consulting were completed. Began work with NYPA System Planners on developing and evaluating reinforcements for the NYS transmission system to address reliability and economic needs, including the importation of additional Canadian hydropower, facilitation and development of renewable energy sources within NYS and replacement of aging transmission infrastructure.

Life Extension and Modernization Programs

St. Lawrence LEM Upgrade

Work on Unit 19 at the St. Lawrence-FDR Power Project, the 15th of the 16 units, began on July 25, 2011, as part of the Project’s Life Extension and Modernization^[1] (LEM) program. The unit is expected to return to service on April 18, 2012. The 2013 scheduled completion date for the LEM project remains unchanged.

Technical Compliance – NERC Reliability Standards

In December, NYPA continued to implement its work plan for responding to a 2010 NERC Alert Recommendation that requires NYPA to review its current facility ratings methodology for their solely and jointly owned transmission lines to verify that the methodology used to determine facility ratings is based on actual field conditions (in particular line ground clearances). NYPA met with staff of the Northeast power Coordinating Council (NPCC) to discuss the status of the assessment. NYPA plans to meet with NYISO staff in the first quarter of 2012 to review the assessment results, revise the priorities of NYPA’s transmission lines, and to discuss plans for field verifying the assessment findings for the high priority lines. NYPA’s plan requires that potential violations be field verified prior to reporting any possible violations to NERC. The next semi-annual status update to NERC is due January 15, 2012.

In December, the NERC Board of Trustees approved a new definition of the Bulk Electric System (BES) that will be filed with FERC in January 2012. NYPA staff developed a master list of all NYPA’s BES assets, including those newly identified BES elements based on the new definition. Several of NYPA’s transmission assets, not

previously considered part of the BES, will become subject to the NERC reliability standards. Once the list of newly identified BES assets is confirmed by NPCC, NYPA staff will conduct a compliance gap assessment for the standards applicable to its current and potential future NERC registrations as part of a transition plan NPCC will file with NERC in January 2012.

Representatives from the NYISO and the New York Transmission Owners (NYTOs) continue to work together to plan for reliability compliance management obligations that could result from the revised BES definition. Discussions in December continued to focus on reaching agreement on the methodology for managing the requirements for Transmission Operator (TOP) and Transmission Planner (TP) registration for newly defined BES assets under the new definition. The NYISO and the NYTOs are developing a document that will be the basis for an agreement in which they will share the functional responsibility and compliance accountability for the NERC Reliability Standards and requirements applicable to new BES assets in New York. The impacts of the potential new functional registrations for NYPA continue to be monitored and reviewed by the NYPA staff.

In December, NYPA staff completed the mitigation plans for self reported violations of standards related to relay protection system and disturbance monitoring equipment maintenance. The mitigation closure documents will be filed with NPCC in January 2012. NYPA staff are preparing for settlement discussions with NPCC that will likely lead to the assessment of a penalty for violating two requirements of these standards. The settlement discussions are expected to conclude within the first quarter of 2012.

NYPA staff will be conducting a reliability standards compliance management staffing assessment in the first quarter of 2012. This assessment is being done in response to an Internal Audit recommendation. The assessment is intended to identify possible deficiencies or misallocations of resources required to sustain NYPA's internal reliability standards compliance program.

Research & Technology Development (R&TD)

R&TD initiated the following projects: "Non-destructive Methods for Detection of High Temperature Damage in CSEF Steels (Grades 91 and 92 used in power transformers and other equipment) as a Basis for Life Evaluation" and "Guidelines for Managing Flexible Operations" (the identification and documentation of successful strategies for reducing the impact of cycling plant generation on operations, maintenance, and equipment wear and tear costs).

The contract with The Valley Group for the Dynamic Line Rating project has been executed by NYPA. This project will install equipment for dynamic estimation of the loading capability of transmission lines (utilizing actual weather and transmission line loading conditions instead of fixed, conservative assumptions) and utilization of such information along with real-time system operational data for optimization of the power system operation. NYSERDA will cofund this project in the amount of \$1,683,494.

The joint NYPA / EPRI “Fish Friendly Hydropower Development and Deployment: Alden turbine Preliminary Engineering and Model Testing” project was completed. The primary goal was to provide a commercially competitive turbine design that would yield fish passage survival rates comparable to or better than the survival rates of bypassing or spilling flow. Based on selected head and flow design conditions, fish passage survival through the final turbine is estimated to be approximately 98% for 7.9-inch length fish (which make up more than 90% of fish trapped at hydro projects) and predicted survival reaches 100% for 3.9-inches or less. Completion of this project provided a mechanical and electrical design that may be readily adapted to site-specific conditions with additional engineering development.

Staff attended the Power Systems Engineering Research Center’s (PSERC) Future Grid initiative workshop and Industry Advisory Board meeting. Staff also attended the NYPA/NYISO formal on-site review meeting for the DoE Smart Grid Investment Grant (SGIG) project and provided feedback regarding cyber security and networking concerns regarding NYISO-NYPA Phasor Measurement Unit /Phasor Data Concentrators.

Energy Resource Management

NYISO Markets

In December, Energy Resource Management (ERM) bid more than 2.7 million MWh of NYPA generation into the NYISO markets, netting \$49.2 million in power supplier payments to the Authority. Year-to-date net power supplier payments are \$569.2 million.

Fuel Planning & Operations

In December, NYPA’s Fuels Group transacted \$21.5 million in natural gas and oil purchases, compared with \$29.5 million in December 2010. Year-to-date natural gas and oil purchases are \$258.0 million, compared with \$223.8 million at year-end 2010. The total year-to-date \$34.2 million increase is mainly attributed to the start up of Astoria Energy II Plant (+\$48.8 million), decreased fuel cost at the 500-MW Combined Cycle Plant (-\$7.0 million), and increased generation at the Small Clean Power Plants (+\$3.1 million) and the Richard M. Flynn Power Plant (+\$1.9 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 December 7th, Auction 14 of the Regional Greenhouse Gas Initiative⁸ was held. During the auction, RGGI allowances cleared at the auction price floor of \$1.89/ton for Vintage 2011 for the fourth straight quarterly auction this year. NYPA bid into and was awarded 250,000 tons of 2011 allowances during the December auction. This amount was secured to ensure enough allowances to meet NYPA’s allowance requirement for all plants not only for 2011 but also the 2009-2011 Compliance Period. Since the inception

of this program, NYPA has spent \$20.14 million on 8.5 million RGGI allowances, or \$2.38/ton on average. For only 2011, NYPA spent \$1.89/ton on average for Vintage 2011 allowances.

2011 Highlights

- 2011 NPCC Audits
- Flood response to Hurricane Irene
- No fines or penalties leveled against the Authority for EHS related programs
- HTP Project
- Celebrated Niagara's 50th Anniversary of 1st Power
- Jarvis Emergency Action Plan
- Managed the Astoria Energy II (AE II) Tolling Agreement

GLOSSARY

¹ **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.

² **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.

³ **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).

⁴ **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.

⁵ **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.

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

⁷ **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.

⁸ **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 CO₂ emissions from the power sector, and will require a 10 percent reduction in these emissions by 2018. RGGI is composed of individual CO₂ Budget Trading Programs in each of the nine participating states. Regulated power plants can use a CO₂ allowance issued by any of the nine participating states to demonstrate compliance with the state 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 CO₂ 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.

^[i] **Life Extension and Modernization Program** — A major undertaking in which all the turbines at the St. Lawrence-Franklin D. Roosevelt project are being replaced and the generators and other components significantly refurbished. The program is intended to ensure that the project operates at maximum efficiency far into the future.