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TO: NYPA BOARD OF TRUSTEES
FROM: EDWARD WELZ, CHIEF OPERATING OFFICER
DATE: SEPTEMBER 10, 2013
SUBJECT: MONTHLY REPORT FOR THE BOARD OF TRUSTEES

This report covers performance of the Operations group in August 2013.

Operations

Plant Performance

Systemwide net generation¹ was 2,173,255 megawatt-hours² (MWh) for August which is above the projected net generation of 1,936,369 MWh. For the year, net generation was 16,440,186 MWh which is above the projected target of 15,719,393 MWh.

The fleet availability factor³ was 89.94 percent in August and 88.23 percent for the year. Generation market readiness factor⁴ was 99.95 percent in August, which is better than the monthly target of 99.40 percent. Year-to-date generation market readiness factor was at 99.52 percent, which is above the annual target of 99.40%.

There were two significant forced outages in August:

1. Stator ground problems occurred on LPGP Unit 1. The unit was out of service for 8 days.
2. LPGP Unit 3 underwent a Phase Reversal Switch failure. The unit was out of service for one month.

Generation net revenue in August was \$27.8 million with a loss of revenue of \$0.01 million. For the year, net revenue was \$213.8 million while the revenue loss was \$1.64 million.

Niagara River flows in August were at the historical average and are expected to be near normal levels for the next two years. St. Lawrence River flows during August were above forecast. River flows are expected to be near historical levels by the end of 2013.

Transmission Performance

Transmission reliability^[i] in August was 99.95 percent, which was above the target of 98.86 percent. Year-to-date transmission reliability is 96.25 percent, below the target of 96.54 percent.

There were no significant unplanned transmission events in August to report.

Safety

The NYPA DART (Days Away, Restricted or Transferred) Rate for August is 0.00 compared to the target of 0.78. For the year, the DART Rate is 0.67.

The Operations DART Rate for August is 0.00 compared to the target of 1.08. For the year, the DART Rate is 0.84.

There were no lost time incidents in August that met the DART criteria. For the year, there have been 7 injuries that resulted in lost time and meet the DART criteria.

Environmental

There were four reportable incidents in August.

1. At Niagara, a SPDES permit exceedance occurred due to a leak at a turbine oil heat exchanger.
2. At St. Lawrence, gasoline leakage was discovered at the former site of an underground storage tank.
3. At Clark Energy Center, a monthly SPDES sampling was missed. This has been reported as a non-compliance event.
4. A hydraulic hose line on an all-terrain Fleet vehicle released 2 gallons of oil into the environment.

For the year, there have been twenty-one incidents. The annual target is 32 incidents.

Relicensing – Niagara Power Project

Construction of the Frog Island Habitat Improvement Project (HIP) continues with good progress. A contract award recommendation for the vegetation planting phase will be considered at the September Trustees meeting. Preliminary studies to support design work on the Strawberry Island HIP, which is the last of the Niagara HIPs, continue.

Support continues to be provided for the Maid of the Mist project which is progressing very well. Planning and coordination is being provided to minimize the disturbance and

interruption of use of NYPA recreational facilities that will be impacted by this undertaking.

Relicensing – St. Lawrence-FDR Power Project

Construction of the Nichols Island Controlled Level Pond HIP has moved quickly. Work on 3 of 4 dikes is now completed. Preparations are underway to place the second and last water control structure. Once that is in place, the last dike will be finished. Project completion should be readily accomplished this Fall.

Relicensing – Blenheim-Gilboa Project

Preparation of the preliminary licensing documents continues. At this time, no significant regulatory issues that would impact relicensing have been identified. Careful consideration is being given to optimizing the time of the initial filing which will commence the formal FERC process.

Life Extension and Modernization Programs

St. Lawrence LEM Upgrade

The Life Extension & Modernization has been completed on all of the generating units. Miscellaneous activities continue to close-out the project.

Transmission LEM

T-LEM is a multiyear program that will upgrade the Authority's existing transmission system to maintain availability, increase reliability, and ensure regulatory compliance. The Program encompasses Authority transmission assets in the Central, Northern, and Western Regions. The Program is estimated to cost \$726 million and is comprised of several projects:

- St. Lawrence Breaker & Relay Replacement:
 - Breaker Installation: Engineering issued a design package for installation of the new circuit breakers. Development of the bid package is in progress.
 - Breaker Procurement: Contract issued to HVB for procurement of circuit breakers.
 - Massena Substation Relay Replacement: Engineering has designed the relay installation packages. Development of the bid package is in progress.
 - Alcoa Communications: Engineering issued new communications systems for three transmission lines MRG 1, MRG 2 & MR3. RFQ is currently advertised.
 - 100MVAR Capatitor Banks: CH2M continues to work on the conceptual design.

- CEC Autotransformer/Reactor Refurbishment:
 - The first autotransformer refurbishment is scheduled to conclude in September 2013.
 - ABB is preparing submittals to begin the first reactor refurbishment (#1A).
- Massena Substation Reactor Refurbishment:
 - ABB is preparing submittals to begin the first reactor refurbishment (#1A).
- ADK Substation Spare Autotransformer Procurement:
 - The project team is continuing to review the proposals for the procurement of the spare auto-transformer. Award is pending resolution of MA1&2 upgrade as to whether substation will remain 230kV or be upgraded to 345kV.
- NIA, BG & CEC Relay Replacements:
 - The project team continues to design, procure equipment and install relays.
- Massena Substation Autotransformer Replacement:
 - Replacement of the spare auto-transformer at Massena Substation is in progress with equipment delivery expected in the fall of 2013.
 - Remaining auto-transformers are scheduled for delivery and installation in 2014.
- Tower Modeling:
 - Tower modeling of the weathering steel structures and grillage is in progress.
- Tower Painting :
 - Tower painting RFQ is currently advertised and includes work at STL and NATL starting in 2014.
- NIA, STL, CEC & BG Swithyard LEM & STL Substation LEM:
 - The project team continues to assess switchyard and substation equipment and determine the priority of equipment replacements.
 - A kick-off meeting is scheduled at CEC to commence development of the CEC Switchyard LEM project plan.
 - Kick-off meetings are being coordinated for the other remote substations.
- PV-20 Submarine Cable Replacement:
 - Discussions ongoing with VELCO. Scope of work for preliminary engineering has been developed. A Memorandum of Understanding (MOU) is being finalized. Preliminary engineering activities will commence once the MOU is executed.

LPGP LEM

The spare GSU is in transit from China and is scheduled to be delivered in October 2013. The assembly of the second turbine is nearing completion and is scheduled to arrive at LPGP in January 2014 as scheduled. The third turbine components arrived in Hitachi's facility located in Japan and assembly will commence. The components for the fourth

turbine are in various stages of fabrication and portions of the fifth and sixth turbine components were released for fabrication.

The commissioning of the first unit continued however there were several issues that delayed the unit return to service. NYPA staff continue to investigate and resolve these issues with the equipment vendors and the new return to service date is September 14, 2013. The LPGP LEM program is scheduled to be completed in 2020.

Technical Compliance – NERC Reliability Standards

In August, Technical Compliance continued to oversee compliance enforcement actions related to several of the NERC Reliability Standards that are applicable to NYPA's NERC registrations. No new possible violations of the standards were identified either through audits or self-reports submitted to the Northeast Power Coordinating Council (NPCC) in August. The number of active enforcement actions remains at eight (8). The mitigation plans for six (6) of the self-reports have been completed. Three (3) of the six mitigation plans are under review by NPCC and the supporting documentation for the remaining three (3) is being assembled for submission to NPCC. NYPA requested of NPCC that NYPA's two most recent self-reports be processed under the "Find Fix and Track" (FFT) process as remediated issues. NPCC is reviewing NYPA's FFT request.

In August, NYPA staff submitted one new reliability standards possible violation concern to Technical Compliance. The compliance concern is related to NERC Critical Information Protection (CIP) reliability standards. The investigation of the concern will commence in September.

On June 7, NYPA received a spot check audit notice from NPCC for the NERC reliability standard PRC-001-1.1 – System Protection Coordination as applied to NYPA's registration as a Generator Operator (GOP). All requested documentation was submitted to NPCC on July 29, 2013 and is currently under review.

The Federal Energy Regulatory Commission (FERC) approved the new Bulk Electric System (BES) definition in an order dated December 20, 2012 and further reaffirmed its order on April 18, 2013. The new definition will require transmission assets above 100 kV to be subject to the NERC Reliability Standards. In August, NYPA staff continued to engage with National Grid, Con Edison, LIPA, and New York State Electric and Gas to address projected gaps in compliance for the Transmission Owner (TO) standards for NYPA assets that either reside in other TO's substations or for substations owned by NYPA, but that are operated and maintained by other TOs. In addition, NYPA continued to have discussions with these TOs and the NYISO regarding the Transmission Operator (TOP) and Transmission Planning (TP) responsibilities for NYPA's newly identified BES assets.

FERC issued a Notice of Proposed Rulemaking (NOPR) regarding Critical Infrastructure Protection (CIP) Version 5 standards on April 18, 2013. Version 3 will be replaced with Version 5, which will become effective on or about July 1, 2015. The pending approval

and adoption of Version 5 of the Critical Infrastructure Protection (CIP) standards will have substantive impacts on NYPA's CIP compliance program. In August, staff continued its focus on identifying cyber assets that will be affected by the revised standards. The results will be used to firm up staff's initial estimates of the scope and costs of the implementation plan that will ensure NYPA's compliance with the revised standards.

Energy Resource Management

NYISO Markets

In August, Energy Resource Management (ERM) bid 2.3 million MWh of NYPA generation into the NYISO markets, netting \$41.02 million in power supplier payments to the Authority. Year-to-date net power supplier payments are \$410.2 million.

Fuel Planning & Operations

In August, NYPA's Fuels Group transacted \$21.7 million in natural gas and oil purchases, compared with \$21.2 million in August 2012. Year-to-date natural gas and oil purchases are \$235.6 million, compared with \$139.6 million at this point in 2012. The total \$96.0 million increase is mainly due to the higher cost of fuel and fuel consumption at the Astoria Energy II Plant (\$36.6 million), Small Clean Power Plants (\$14.7 million), Richard M. Flynn Power Plant (\$6.0 million), and the 500-MW Combined Cycle Plant (\$38.7 million).

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 **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 pulled the state out of the program in 2011.

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