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TO: NYPA BOARD OF TRUSTEES
FROM: EDWARD WELZ, CHIEF OPERATING OFFICER
DATE: MARCH 12, 2014
SUBJECT: MONTHLY REPORT FOR THE BOARD OF TRUSTEES

This report covers performance of the Operations group in February 2014.

Operations

Plant Performance

Systemwide net generation¹ was 1,990,463 MWh (megawatt-hours²) for February which is below the projected net generation of 1,996,136 MWh. For the year, net generation was 4,038,306 MWh which is below the projected target of 4,212,415 MWh.

The fleet availability factor³ was 95.21 percent in February, and was 93.93 percent for the year. Generation Market Readiness factor⁴ was 99.88 percent in February, which is better than the monthly target of 99.40 percent. Year-to-date generation market readiness factor was at 99.63 percent, which is above the annual target of 99.40 percent.

There were no significant forced outages⁵ in February.

Generation net revenue in February was \$51.5 million with a loss of revenue of \$0.07 million. For the year, net revenue was \$111.1 million while revenue loss is \$0.60 million.

Niagara River flows in February were below the historical average and are expected to be near normal levels for most of the year. St. Lawrence River flows during February were above forecast level. River flows are expected to be near historical levels at the beginning of 2014, and then are anticipated to fall below average from Spring 2014 onwards.

Transmission Performance

Transmission Reliability⁶ was 97.38 percent in February which was above the target of 96.53 percent. The 2014 year to date Transmission Reliability is 97.29 percent, which is above the target of 96.81 percent.

There were no significant unplanned transmission events⁷ to report in February.

Safety

The NYPA DART (Days Away, Restricted or Transferred) Rate for February was 0.00 compared to the target of 0.78. For the year, the DART Rate is 0.82.

The Operations DART Rate for February is 0.00 compared to the target of 1.08. For the year, the DART Rate is 1.21.

There were no lost time incidents in February that met the DART criteria. For the year, there have been 2 injuries that resulted in lost time and met the DART criteria.

Environmental

There were three reportable incidents in February:

1. A release of R-22 refrigerant occurred at the Poletti 500MW facility.
2. Two SPDES excursions occurred at the St. Lawrence facility.

For the year, there have been four incidents. The annual target is 32 incidents.

Relicensing – Niagara Power Project

Design work for the Strawberry Island HIP continues. Consultation meetings are being arranged to receive agency feedback on the design and on plans to minimize impacts on nesting Bald Eagles present on the island.

Support continues to be provided for the Maid of the Mist project which is progressing very well. Planning and coordination is underway to coordinate the design and completion of the new facilities with the restoration of NYPA recreational facilities associated with the Discovery Center.

Relicensing – St. Lawrence-FDR Power Project

Construction of this season's Adjoining Landowner Shoreline Stabilization projects has been completed.

Relicensing – Blenheim-Gilboa Project

Preparation of the preliminary licensing documents is complete and they have been distributed for executive review and approval. The formal FERC Relicensing process will commence in the first quarter of 2014. A pre-filing meeting is being held with FERC staff in mid-March. At this time, no significant regulatory issues that would impact relicensing have been identified.

Life Extension and Modernization Programs

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:
 - STL Breaker Installation: Proposals were received and are being evaluated for construction activities during the period 2014 – 2016. Outage plan for 2014 finalized, submitted and to OPS review for approval and implementation.
 - STL Breaker Procurement: Contract issued to HVB for procurement of circuit breakers.
 - Massena Substation Relay Replacement: Equipment delivered relays are under test and calibration.
 - 100MVAR Capacitor Banks: Award issued to Cooper Power Systems. CH2M is working on the final design package.
- CEC Autotransformer/Reactor Refurbishment:
 - One auto-transformer and one reactor will be refurbished in 2014.
- Massena Substation Reactor Refurbishment:
 - Two reactors will be refurbished in 2014.
- NIA, BG & CEC Relay Replacements:
 - The project team continues to design, procure equipment and install relays.
- Massena Substation Autotransformer Replacement:
 - The spare auto-transformer has arrived in the US. The vendor continues to encounter transportation issues in order to move the equipment to Massena. A revised schedule is being developed by the vendor.
 - Remaining auto-transformers are scheduled for delivery and installation in 2014.
- Tower Modeling:
 - Tower modeling of the weathering steel structures and grillage was completed.
- Tower Painting:

- Tower painting proposals were received and are being evaluated for work at STL and NATL starting in 2015.
- NIA, STL, CEC & BG Switchyard LEM & STL Substation LEM:
 - The project team has assessed switchyard and substation equipment and determined the priority of equipment replacements.
 - Project Plans have been issued for review.
 - Trustee Items are being drafted.
- PV-20 Submarine Cable Replacement:
 - Preliminary engineering activities are ongoing by CHA in collaboration with VELCO.

LPGP LEM

The second new turbine was delivered in January and was installed in the second unit, Unit 5, this March as planned. The assembly of the third and fourth turbines commenced in Hitachi's facility located in Japan. The first two of seven blades that have been modified to the new design, "LBR3", for the fifth unit have been poured. The band and crown are in various stages of machining by Hitachi's sub-contractor, Litostrój located in Slovenia.

Hitachi released the fabrication of the sixth turbine at two new facilities, Japan Steel Works (JSW), located in Japan and Voestalpine located in Austria, given the reported "insolvency proceedings" of the Litostrój foundry. JSW will be fabricating the runner and crown and Voestalpine will be fabricating the blades (LBR3 design) and upon completion, these components will be sent to Hitachi's facility located in Japan for the runner assembly as on previous units.

The second unit outage, Unit 5, commenced on October 15, 2013 as scheduled and the refurbishment was completed and the unit re-assembly work is well underway. As previously reported, during the planned refurbishment and inspections of the original unit shafts (two sections), a significant crack was discovered around one of the shaft's circumference and the spare shafts that were ordered at the commencement of the LEM are being utilized. Hitachi and their sub-contractor, Gracon, work crews are working multiple shifts in order to try and recover the schedule due to the "in-place machining" that is required to connect the two shaft sections. The original return to service date was May 23, 2014 which will now be delayed up to about two weeks due to the shaft issues; the new return to service date is June 6, 2014. Two additional sets of spare shafts have been ordered by Hitachi and will be fabricated by the same sub-contractor, Hyunjin located in South Korea, who provided the spare set. One of the sets of shafts has been expedited in order to have it delivered just in time (October 2014) for the next unit outage, Unit 7, which is scheduled to start this coming June. The LPGP LEM program is scheduled to be completed in 2020.

The planned post unit upgrade testing on the first unit that was refurbished, Unit 11, commenced on March 4th. The consultant, Power Engineering, has installed over one hundred instruments and is collecting data with a high speed data analyzer which will

be utilized to determine the new turbine hydraulic performance and the units' electrical and mechanical equipment. As part of the instrumentation installation process, the rotor was also removed and during the inspection, it was discovered that numerous rotor poles jumpers had indications of extreme heating and some had failed. This rotor was refurbished by Andritz Hydro Corp. during the unit refurbishment work as part of the Motor/Generator contract. Andritz inspected the rotor and replaced the failed jumpers and determined that the unit can operate in order for Power Engineering to perform their testing (a short term repair); Andritz is presently evaluating the root cause and their design. An outage in the near future will be required to address the rotor issues for the long term along with other "as found" conditions since the unit returned to service in October 2013.

Technical Compliance – NERC Reliability Standards

Enforcement Actions – Northeast Power Coordinating Council (NPCC):

Five (5) minimal risk enforcement actions were processed by NPCC under North American Electric Reliability Corporation's (NERC) Find, Fix, and Track process in February. As a result, NYPA has a total of nine (9) possible violations pending regulatory closure. One (1) possible violation was identified in February, which NPCC approved for processing as a minimal risk enforcement incident under a NERC-sponsored enforcement pilot program that is testing alternative enforcement methods. NYPA has three (3) possible violations in the pilot program. NYPA is the only registered entity of over 350 in the NPCC region participating in the pilot program.

Internal Investigation of Possible Violations:

No new investigations were initiated in February. Three (3) investigations, relating to various requirements, are currently in progress.

Other Compliance Activities:

In February, NYPA submitted to NPCC nine (9) self-certifications of compliance for standards applicable to NYPA.

Critical Infrastructure Protection (CIP) Standards - Version 5:

On November 21, 2013 FERC approved the CIP Version 5 reliability standards and nineteen new or revised definitions related to the new standards. FERC's draft final rule also approved the implementation plan. NYPA must demonstrate compliance to the revised standards by April 1, 2016. In February, a cyber-asset classification assessment survey required pursuant to the new standards commenced at the Clark Energy Center. The cyber-asset classification assessment survey for all of NYPA's Bulk Electric System (BES) generation and transmission facilities will be completed by June 2014. The results of the surveys will be used to confirm the scope and costs of the implementation plan NYPA will need to execute to demonstrate compliance with the revised standards.

NERC Reliability Assurance Initiative (RAI):

NYPA, along with other generation and transmission companies in North America, including Large Public Power Council (LPPC) and American Public Power

Association (APPA) members, has been actively supporting the NERC and NPCC in moving this important program forward. NYPA continued to participate in two NPCC pilot programs to test new compliance monitoring and enforcement tools; one is focusing on methods for assessing a company's internal controls for managing compliance and one is focusing on new tools for processing minimal risk violations of the standards. These pilot programs are being conducted in several regions across the country to establish the basis for a more risk-based, continent-wide compliance monitoring process. Furthermore, at the request of NERC, NYPA staff has or is participating in three (3) Industry Focus Groups related to this initiative.

Energy Resource Management

NYISO Markets

In February, Energy Resource Management (ERM) bid 2.24 million MWh of NYPA generation into the NYISO markets, netting \$120.8 million in power supplier payments to the Authority. Year-to-date net power supplier payments are \$265.7 million.

Fuel Planning & Operations

In February, NYPA's Fuels Group transacted \$64.2 million in natural gas and oil purchases, compared with \$44.8 million in February 2013. Year-to-date natural gas and oil purchases are \$140.4 million, compared with \$84.5 million at this point in 2013. The total \$55.9 million increase is mainly due to the higher cost of fuel and/or fuel consumption at the Astoria Energy II Plant (\$18.9 million), 500-MW Combined Cycle Plant (\$33.2 million), and Richard M. Flynn Power Plant (\$8.1 million), which was offset by a decrease at the Small Clean Power Plants (-\$4.3 million).

In February, fuel oil was purchased at 500-MW Combined Cycle Plant (\$5.4 million), AEII (\$8.6 million) and the Richard M. Flynn Power Plant (\$10.7 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 **Significant Unplanned Generation Events** – Those events (forced or emergency outages of individual generator units) of duration greater than 72 hours, or have a total repair cost of greater than \$75,000, or result 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** – Those events (forced or emergency outages of individual transmission lines) which 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 8 hours, or that have a repair cost greater than \$75,000.