



**NY Power
Authority**

**Canal
Corporation**

**SPECIAL
JOINT FINANCE COMMITTEE MEETING
PROPOSED AGENDA
Videoconference – July 16, 2019 at 11:00 a.m.**

1. Adoption of the July 16, 2019 Proposed Special Meeting Agenda
2. **DISCUSSION AGENDA:**
 - a. Niagara Power Project – Robert Moses Life Extension and Modernization and Controls Upgrade Program **(Patricia Lombardi/Randy Kreuz)**
 - b. R.M. Flynn Power Plant Long Term Service and Extended Parts Agreement (“LTSEPA”) **(Joseph Kessler)**
3. Next Meeting



Date: July 16, 2019

To: FINANCE COMMITTEE

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: Niagara Power Project
Robert Moses Life Extension and Modernization and Controls Upgrade Program –
Program Approval, Capital Expenditure Authorization Request and Contract Awards for Integrated Controls and Penstock Platform

Summary

The Finance Committee is requested to recommend to the Trustees at their July meeting to approve a Life Extension and Modernization Program (LEM Program) for the estimated cost of \$1.1 billion to modernize the Robert Moses Power Plant (RMPP). The modernization will replace aging equipment, enhance plant performance in the New York Independent System Operator market, and maintain a reliable and competitive power production facility.

The Finance Committee is further requested to recommend to the Trustees to authorize capital expenditures in the amount of \$213 million to initiate engineering, procurement, construction and delivery of long-lead-time components.

The Finance Committee is further requested to recommend to the Trustees to approve the award of a 14-year design-build contract to Burns & McDonnell Consultants P.C (BMC), Kansas City, Missouri, in the amount of \$134 million (including \$21M in design options and \$36M in escalation) to replace the unit and plant control systems for all 13 hydro-generating units, to update the main control room and add a back-up control room. At this time, BMC will only be authorized to proceed up to the first three units as well as all main and backup control room work.

The Finance Committee is further requested to recommend to the Trustees to approve the award of a 14-year contract to The State Group (TSG), Buffalo, NY for \$69 million for the Penstock Platform Project. At this time, TSG will only be authorized to proceed with fabrication of the platform and mobilization for up to the first three units.

In accordance with the Authority's Expenditure Authorization Procedures, capital expenditures in excess of \$6 million require the Trustees' approval.

Background

The RMPP has had only minor control system upgrades since its initial construction in the 1960's. The upgrade project implemented in the 1990's did not replace the relay-based controls systems and mechanical governors, which were still state-of-the-art equipment at the time, and mechanical fatigue of the turbine-generator and other systems was not considered likely at that age, therefore no changes were made. This LEM Program will overhaul the 13 generating units and their associated auxiliary power equipment to bring the plant into the

modern digital operating era, adding the ability for backup controls for the plant and switchyards and replacing equipment nearing the end of its life.

Authority staff conducted an analysis of RMPP assets including performance testing using sensors, and have put together this Program which includes but is not limited to replacing the head covers, shafts, wickets gates, governors, refurbishing the stators, guide bearings, iso-phase bus, and other ancillary systems to ensure reliable plant operation and asset management, provides for another 60 years of services and which is less costly than reacting to a major failure due to fatigue.

The LEM Program is comprised of four main projects: Controls Upgrade, Mechanical/Electrical Overhauls (M/E LEM), Penstock Platform, and the 630-ton Gantry Crane Upgrade. Each of these projects will have its own Capital Expenditure Authorization Request (CEAR). The RMPP LEM Program estimated at \$1.1 billion is the sum of each of these individual CEARs.

The Controls Upgrade will start prior to the M/E LEM, with design of the system scheduled for 2019-2020 and the backup and main control room work and first unit control upgrade commencing by 3Q 2020. This first unit control upgrade is expected to require 9 months to complete followed by a full year of monitoring to ensure the most efficient operation and resolve anticipated operational adjustments, subsequent unit control upgrades will require 7 months to complete.

The Program schedule targets award of the turbine and motor generator overhaul contracts by 2021 to support the first M/E LEM unit starting in 2023 at which time the LPGP LEM Program is expected to be complete. Long lead items such as the wicket gates and shafts will be ordered in early 2020 via direct material contracts and the head covers will be released for fabrication under the turbine generator contract in late 2021. The overall Program is estimated for completion by 2034.

The current funding request will be for the work associated with the Controls Upgrade of the first three units, backup and main control room upgrades, the Penstock Platform fabrication and installation for the first three units, the 630-Ton Crane Upgrades and release of the first long lead items such as wicket gates and turbine shafts. Funding for the next three units as well as future contract awards and anticipated escalation costs for material and labor will be requested in future stages of the Program.

Discussion

Overall Program Authorization

The Niagara Power Project generally ranks second in annual energy production among hydroelectric plants in the U.S. averaging 14,000 GWHRs/year and considering its location and the services it provides to New York and the NYISO market, is a vital asset for the State. RMNPP has an unusually high capacity factor, so that forced outages are more likely to result in inability to meet market and customer commitments. A significant failure at RMNPP could have severe consequences to the Authority's customers, the market and the Authority itself.

The total Program Cost is estimated at \$1,100,000,000 as follows:

Preliminary Engineering/Engineering Design	\$38,000,000
Material Procurement & Construction/Installation	\$498,000,000
Authority Direct and Indirect Expenses	\$98,000,000
Contingency and Escalation	\$466,000,000
<u>TOTAL</u>	<u>\$1,100,000,000</u>

The Finance Committee is requested to approve expenditures for engineering, procurement, construction and Authority direct and indirect costs to continue the orderly planning, design, long lead material procurement and implementation of the work as follows:

	Total Estimated (\$000)	Previously Authorized (\$000)	Current Request (\$000)	Balance to be Authorized (\$000)
Preliminary Engineering/Licensing	\$ 7,476	\$ 7,476	\$ 0	\$ 0
Engineering and Design	\$ 25,000	\$ 0	\$ 11,200	\$ 13,800
Procurement/Constructions	\$ 943,650	\$ 0	\$179,800	\$ 763,850
Authority Direct/Indirect	\$ 123,874	\$ 3,522	\$ 22,000	\$ 98,352
Total Authorization Requested	\$1,100,000	\$10,998	\$213,000	\$876,002

The current funding request includes approximately 30% of the anticipated engineering costs including evaluation of the unit Iso-phase and intermediate bus and initial procurement of wicket gates, spare generator and turbine shafts. The request also includes funding for the work on the first three unit controls as well as the work required for the main and backup control rooms.

Integrated Controls

A Request for Qualifications (RFQ), No. Q18-6452JT, was issued on May 22, 2018 through the Authority's Ariba system and was advertised in the New York State *Contract Reporter*, to solicit information from interested vendors, enabling the Authority to evaluate the capabilities and capacity of each vendor with respect to the Control System and establish a list of most qualified suppliers, to which a Request for Proposal (RFP) for the specific Scopes of Work (SOW) for the RMNPP Controls LEM initiative was issued.

On June 21, 2018, nine suppliers submitted their qualifications in response to the RFQ. The submitted information was reviewed and evaluated by a multi-disciplined team, comprised of Engineering, Strategic Supply Management, Plant Operations and Maintenance, Project Management, and Environmental Health & Safety. As part of the evaluation, phone interviews were held with each of the responding suppliers to review their submissions. The most qualified four respondents were selected for the RFP stage

An RFP was issued on November 20, 2018 describing the scope of design, testing, fabrication, installation and renovation associated with the controls systems to the firms selected in the RFQ process. Proposals were received as listed below on April 15, 2019:

<u>Description</u>	Location	Total Bid Amount (without Escalation)
ABB Inc.	Burlington, Ontario Canada	\$ 120,400,000.00
Burns & McDonnell Consultants, P.C.	Kansas City, Missouri	\$ 89,380,170.90
Voith Hydro	York, Pennsylvania	\$ 86,233,611.00

All proposals were reviewed thoroughly by the same Evaluation Committee and were determined to be technically compliant. The proposals were reviewed and evaluated based on the evaluative criteria established in the RFP; best value, integrated control system and control room designs, proposal completeness, ability to meet the project schedule, experience in performing similar work, experience working with the Authority, and safety record.

BMC was determined to be the best value based on their extensive knowledge of projects of this scope, size, and complexity. In addition, BMC's proposed approach to the project is the most practical using industry leading control systems that aligns with the Authority's goals for a single integrated digital control system. Accordingly, the Evaluation Committee recommends an award to Burns & McDonnell Consultants, P.C for \$134,000,000 including design options and escalation.

Penstock Platform

An RFP was issued on September 7, 2018 and on November 29, 2018, two proposals were received. In an effort to expand the pool of potential bidders, the bid scope was revised and the RFP was re-bid on February 21, 2019. On April 5, 2019, three proposals were received as listed below:

<u>Description</u>	Location	Total Bid Amount
International Chimney	Buffalo, NY	\$114,220,295
The State Group	Buffalo, NY	\$57,819,769
Hohl Industrial	Tonawanda, NY	\$41,576,285

The proposals were reviewed thoroughly and evaluated by a multi-disciplined team, comprised of Engineering, Strategic Supply Management, Plant Operations and Maintenance,

Project Management, and Environmental Health & Safety. The proposals were reviewed and evaluated based on the evaluation criteria established in the RFP; best value, proposal completeness, ability to meet the project schedule, experience in performing similar work, and safety record.

The State Group (TSG) was determined to be the best value based on their extensive knowledge of the scope of work and capability of completing this project in accordance with the required schedule. TSG is an ISO 9001 certified company with a local Buffalo office that will allow for more efficient travel to and from the power plant for project quality assurance, quality control, and oversight. Fabrication will be taking place within driving distance from the power plant. TSG will meet the MWBE goal requirements. Accordingly, the Evaluation Committee recommends an award to TSG for \$69,000,000 for selected options and escalation.

Fiscal Information

Payment associated with this project will be made from the Authority's Capital Fund. Funding in the amount of \$11 million has been authorized to date to proceed with preliminary engineering, specification development and bidding for the controls upgrade work.

Recommendation

It is requested that the Finance Committee recommend that the Trustees approve a Life Extension and Modernization Program at the Niagara Robert Moses Power Project for the estimated cost of \$1.1 billion.

It is further requested that the Finance Committee recommend that the Trustees authorize capital expenditures in the amount of \$213 million to initiate engineering, procurement, construction and delivery of long-lead-time components.

It is further requested that the Finance Committee recommend that the Trustees approve the award of a 14-year contract to Burns & McDonnell Consultants P.C., Kansas City, Missouri, in the amount of \$134 million to replace the unit and plant control systems for all 13 hydro-generating units, to update the main control room and add a back-up control room.

It is further requested that the Finance Committee recommend that the Trustees approve the award of a 14-year contract to The State Group, Buffalo, NY for \$58 million for the Penstock Platform Project.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below.

July 16, 2019

To: The Finance Committee

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: RFQ Inquiry No. Q18-6450DK

R.M. Flynn Power Plant Long Term Service and Extended Parts Agreement ("LTSEPA")

SUMMARY

The Finance Committee is requested to recommend to the Trustees at their July meeting to award a competitively bid, non-personal services, Operating Plant Service and Extended Parts Agreement contract to Siemens Energy Inc. of Orlando, Florida. This award will be in the amount of \$45 million for the R.M. Flynn Power Plant for a (20) year term or 100,000 Equivalent Operating Hours (EOH). The Siemens Energy Inc. contract will provide for all parts, labor, and upgrades in order to maintain the combustion turbine for the term of the agreement and labor and field for the first Steam Turbine minor and first Steam Turbine Major Inspections under this Agreement.

BACKGROUND

In accordance with the Authority's Guidelines for Procurement contracts and Expenditure Authorization Procedures, a term longer than one (1) year and in an amount in excess of \$6,000,000 requires approval by the Board of Trustees.

The Authority's R.M. Flynn Combined Cycle power plant was commissioned in April 1994 and the Authority currently has a maintenance service contract with Siemens Energy Inc. for the combustion and steam turbines. It is anticipated that by the fall of 2019 the majority of the combustion turbine's major components will reach the end of their useful life. In an effort to maximize the opportunity to optimize this facility site management determined that it was prudent to rebid the maintenance service agreement.

DISCUSSION

Based upon projected run profiles, the recommended scope of work will include, but not be limited to, anticipated maintenance expenditures for the covered units through 2036, with a termination date of 20 years after effective date July 31st 2019. At the contract start, Siemens Energy Inc. will provide all parts and services, (collectively "Work") necessary to upgrade the gas turbine, which will extend the existing 32,000 FFH maintenance intervals to 50,000 EOH, as

well as increasing the combustion turbine output by 4.8MW and improve plant heat rate (efficiency) by 1.06%. It is anticipated that Siemens Energy Inc. will perform the last maintenance on these covered units at 100,000 EOH (year 2036TBD). As of year 2036, if the unit has not achieved the second major inspection (“MI”), NYPA has the option to either

- extend the contract until the 100,000 EOH maintenance milestone is reached,
- have Siemens perform the last maintenance event early, or
- end the term on the sunset date without performing the last maintenance event.

This contract will provide the Authority’s R.M. Flynn Combined Cycle Plant the parts and resources to maintain the covered unit for a period of 100,000EOH. This contract also transfers the risk of maintenance for the covered unit from the Authority to Siemens Energy Inc.

FISCAL INFORMATION

All costs incurred under this contract for the base scope will be expended through O&M budget, any extra work incurred under this contract will be expended through O&M and/or Capital budgets

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees authorize to award a 20 year (100,000 EOH) contract in the amount of \$45 million to Siemens Energy Inc. for the R M. Flynn Long Term Service and Extended Parts Agreement to become effective on or about July 31st, 2019.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below.

Gil C. Quiniones
President and Chief Executive Officer

July 16, 2019

Next Meeting

The next regular meeting of the Joint Finance Committee is scheduled to be held on Wednesday, November 20, 2019 at a time to be determined.