1. Adoption of the March 23, 2020 Proposed Meeting Agenda

2. Motion to Conduct an Executive Session

3. Motion to Resume Meeting in Open Session

4. DISCUSSION AGENDA:
   a. Information Technology
      i. Core IT Infrastructure LEM Program – Capital Expenditure Authorization (Robert Piascik)
      ii. Common App LEM Program – Capital Expenditure Authorization (Robert Piascik)
      iii. Cyber Resilience Program – Capital Expenditure Authorization (Robert Piascik)
      iv. Data Management Program – Capital Expenditure Authorization (Robert Piascik)
   b. Financial Operations
      i. Review and Approval of Amended Investment Policy Statement for the Other Post-Employment Benefits Trust (Adam Barsky/Christina Reynolds)
      iii. Selection of Firms to Service as Authority Underwriters (Adam Barsky/Christina Reynolds)
      iv. Update on 2019 Financial Reports Pursuant to Section 2800 of the Public Authorities Law and Regulations of the Office of the State Comptroller (Adam Barsky / Sundeep Thakur) - (Oral Presentation)
      v. Release of Funds in Support of the New York State Canal Corporation (Q2) (Adam Barsky/Christina Reynolds)

5. CONSENT AGENDA:
   a. Approval of the Joint Meeting Minutes held on November 19, 2019.
   b. Approval of the Joint Special Meeting Minutes held January 24, 2020

6. Next Meeting
March 23, 2020

**Motion to Conduct an Executive Session**

I move that the Committee conduct an executive session to discuss the financial and credit history of a particular corporation and matters regarding public safety and security.

(pursuant to §105 of the Public Officers Law).
March 23, 2020

Motion to Resume Meeting in Open Session

I move to resume the meeting in Open Session.
Date: March 23, 2020
To: THE FINANCE COMMITTEE
From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER
Subject: Core IT Infrastructure LEM Program - Capital Expenditure Authorization Request

SUMMARY

The Trustees will be requested at their March 31, 2020 meeting to approve a capital expenditure authorization request of $18,267,534 for the Core Information Technology Infrastructure Life Extension and Modernization (“Core IT Infrastructure LEM Program”) Program. The Core IT Infrastructure LEM Program is designed to support the implementation, lifecycle and modernization of the existing End-of-Life and End-of-Service IT infrastructure.

The request represents the projected expenditures for the Core IT Infrastructure LEM Program over the period from 2020-2023. The Authority’s 2020 Budget includes approximately $4,238,284 for the Core IT Infrastructure LEM Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditure authorization request of $18,267,534 for the Core IT Infrastructure LEM Program.

BACKGROUND

In accordance with the Authority’s Capital Planning and Budget Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

The Authority’s Information Technology department (“NYPA IT”) previously outlined to the Trustees’ a comprehensive multi-year strategy to support the Authority’s top priorities and initiatives enabling the Authority’s digital transformation. As part of the multi-year strategy, NYPA IT has re-organized its previously identified core programs to sufficiently account for changes in priorities and to more accurately align to ongoing enterprise strategies as it moves into the future. The goals of the strategy and the eight
new programs, including the Core IT Infrastructure LEM Program, are described in more detail in “Exhibit A.”

In 2019, NYPA IT focused on the acceleration of the enterprise compute and storage program, and its related critical infrastructure components. This effort provided the modern technological foundation and capacity for NYPA to avail itself of leading and bleeding edge solutions required by its digital transformation strategy for 2020 and beyond. In May 2019, the Trustees approved expenditures of $34,020,924 for the Compute-Storage Program. The Compute-Storage Program is currently on budget and expected to be completed in 2020. In 2018, the Trustees approved expenditures of $8,463,609 for the Cyber Program for 2019. The Cyber Program for 2019 was successfully completed within budget.

The Core IT Infrastructure LEM Program is one of four IT-related capital expenditure authorization requests that will be presented to the Trustees at their March 31, 2020 meeting. No contract awards are being requested at this time. Any future contract requests associated with this program will be in accordance with the Authority’s Expenditure Authorization Procedures.

DISCUSSION

The Core IT Infrastructure LEM Program is focused on the procurement and implementation and replacement of essential technology infrastructure including wired and wireless networking, mobile workstations, peripherals, data center infrastructure and platforms, telephony, Virtual Private Network (“VPN”), bandwidth and cloud connectivity. This includes the upgrade of End-of-Life and End-of-Service components, the acquisition of new capabilities, and continued alignment to organizational strategy.

The Core IT Infrastructure LEM Program will include, but not be limited to, Work Packages in the areas of:

- Network Switch Replacements: Replacement of End-of-Life switches.
- WPO Data Center HVAC Upgrade/Replace: Replace current End-of-Life HVAC system.
- Environmental Sensor Replacement for WPO and E2C2 Data Centers: Installation of new environmental monitoring solution.
- Data Center Infrastructure Management System (DCIM): Deployment of DCIM tool.
- Phone System Upgrade: Upgrade NYPA’s phone system.
• BG Visitor Center Renovation: Create new network environment for Blenheim-Gilboa Visitor Center.

• Video surveillance deployment for WPO and E2C2 Data Centers: This will allow remote monitoring and management.

• Printer Equipment Replacement: Replacement of End-of-Life network printers.

The current capital expenditure authorization request for the Core IT Infrastructure LEM Program is based on projected expenditures for the 2020-2023 period. The Core IT Infrastructure LEM Program will involve engineering design, new hardware and software, installation and testing.

The major components of the funding for the Core IT Infrastructure LEM Program are as follows:

- Procurement $ 8,179,208
- Construction/Installation $ 7,055,675
- Internal Labor $ 2,162,769
- HQ Overhead $ 869,882

Total $ 18,267,534

While the capital expenditure authorization request is for the full amount, any expenses deemed to be operating expenses under applicable accounting standards would be funded from the Authority’s operating funds.

FISCAL INFORMATION

The projected expenditures in 2020 for the Core IT Infrastructure Program were included in the Authority’s 2020 Budget. Payments associated with the Core IT Infrastructure Program will be made from the Capital Fund, to the extent properly capitalized or capitalizable, and from operating funds.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve capital expenditures in the amount of $18,267,534 for the Core IT Infrastructure LEM Program.

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
RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $18,267,534 for the Core IT Infrastructure LEM Program

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure Authorization</th>
</tr>
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<tbody>
<tr>
<td>Core IT Infrastructure LEM Program</td>
<td>$ 18,267,534</td>
</tr>
</tbody>
</table>
Date: March 23, 2020
To: THE FINANCE COMMITTEE
From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER
Subject: Common Application LEM Program - Capital Expenditure Authorization Request

SUMMARY

The Trustees will be requested at their March 31, 2020 meeting to approve a capital expenditure authorization request of $18,978,307 for the Common Application Life Extension and Modernization Program (“Common Application LEM Program”). The Common Application LEM Program is designed to support the implementation, lifecycle and modernization of the existing portfolio of business application systems.

The request represents the total cost for the four year 2020-2023 Common Application LEM Program. The Authority’s Approved 2020 Budget includes $4,403,192 for the Common Application LEM Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditure authorization request of $18,978,307 for the Common Application LEM Program.

BACKGROUND

In accordance with the Authority’s Capital Planning and Budget Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

The Authority’s Information Technology department (“NYPA IT”) previously outlined to the Trustees’ a comprehensive multi-year strategy to support the Authority’s top priorities and initiatives enabling the Authority’s digital transformation. As part of the multi-year strategy, NYPA IT has re-organized its previously identified core programs to sufficiently account for changes in priorities and to more accurately align to ongoing enterprise strategies as it moves into the future. The goals of the strategy and the eight new programs, including the Common Application LEM Program, are described in more detail in “Exhibit A.”

In 2019, NYPA IT focused on the acceleration of the enterprise compute and storage program, and its related critical infrastructure components. This effort provided
the modern technological foundation and capacity for NYPA to avail itself of leading and bleeding edge solutions required by its digital transformation strategy for 2020 and beyond. In May 2019, the Trustees approved expenditures of $34,020,924 for the Compute-Storage Program. The Compute-Storage Program is currently on budget and expected to be completed in 2020. In 2018, the Trustees approved expenditures of $8,463,609 for the Cyber Program for 2019. The Cyber Program for 2019 was successfully completed within budget.

The Common Application LEM Program is one of four IT-related capital expenditure authorization requests that will be presented to the Trustees at their March 31, 2020 meeting. No contract awards are being requested at this time. Any future contract requests associated with this program will be in accordance with the Authority’s Expenditure Authorization Procedures.

**DISCUSSION**

The Common Application LEM Program is focused on the assessment, procurement and implementation of essential operating system, middleware and database systems that are key to operation of NYPA’s business applications. This includes the upgrade of End-of-Life and End-of-Service components, the acquisition of new capabilities, and continued alignment to organizational strategy.

The Common Application LEM Program will include, but not be limited to, Work Packages in the areas of:

- Live Data Servers Upgrade: Virtualize Live Data servers.
- SQL 2012 Upgrade: Migrate systems to a currently supported version
- Sitecore Migration: Migrate Sitecore platform to the Cloud to support the Move to the Cloud program.
- Integration Bus Upgrade: Upgrade firmware to fix bugs and maintain support; add new security features, Cloud and third-party integration.
- Integration Gateway Firmware Upgrade: Upgrade appliance firmware and keep vendor support.
- Niagara Applications Consolidation: Migration of application hosted on servers located in Niagara to servers in WPO and update underlying technology.
- Self Service Desktop Software Implementation: Deploy system for users to self-service the installation of MS Project, MS Visio, PDF Converter, etc.
The current capital expenditure authorization request is based on projected expenditures for the 2020-2023 period. The Common Application LEM Program will involve engineering design, new hardware and software, installation and testing.

The major components of the funding for the Common Application LEM Program are as follows:

- Procurement $6,616,042
- Construction/Installation $10,127,604
- Internal Labor $1,330,932
- HQ Overhead $903,729

Total $18,978,307

While the capital expenditure authorization request is for the full amount, any expenses deemed to be operating expenses under applicable accounting standards would be funded from the Authority’s operating funds.

**FISCAL INFORMATION**

The projected expenditures in 2020 for the Common Application LEM Program were included in the Authority’s 2020 Budget. Payments associated with the Common Application LEM Program will be made from the Capital Fund, to the extent properly capitalized or capitalizable, and from operating funds.

**RECOMMENDATION**

It is requested that the Finance Committee recommend that the Trustees approve the Capital Expenditure Authorization Request for $18,978,307 for the Common Application LEM Program.

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
RESOLUTION

RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $18,978,307 for the Common Application LEM Program

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure Authorization</th>
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<tbody>
<tr>
<td>Common Application LEM Program</td>
<td>$ 18,978,307</td>
</tr>
</tbody>
</table>
Date: March 23, 2020

To: THE FINANCE COMMITTEE

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: Cyber Resilience Program - Capital Expenditure Authorization Request

SUMMARY

The Trustees will be requested at their March 31, 2020 meeting to approve a capital expenditure authorization request of $30,640,958 for the Cyber Resilience Program. The Cyber Resilience Program is designed to support the implementation, lifecycle and modernization of the existing portfolio of cyber protection and detection systems.

The request represents the projected expenditures for the Cyber Resilience Program over the period from 2020-2023. The Authority’s 2020 Budget includes approximately $7,109,065 for the Cyber Resilience Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditure authorization request of $30,640,958 for the Cyber Resilience Program.

BACKGROUND

In accordance with the Authority’s Capital Planning and Budget Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

The Authority’s Information Technology department (“NYPA IT”) previously outlined to the Trustees’ a comprehensive multi-year strategy to support the Authority’s top priorities and initiatives enabling the Authority’s digital transformation. As part of the multi-year strategy, NYPA IT has re-organized its previously identified core programs to sufficiently account for changes in priorities and to more accurately align to ongoing enterprise strategies as it moves into the future. The goals of the strategy and the eight new programs, including the Cyber Resilience Program, are described in more detail in “Exhibit A.”

In 2019, NYPA IT focused on the acceleration of the enterprise compute and storage program, and its related critical infrastructure components. This effort provided the modern technological foundation and capacity for NYPA to avail itself of leading and bleeding edge solutions required by its digital transformation strategy for 2020 and beyond. In May 2019, the Trustees approved expenditures of $34,020,924 for the Compute-Storage Program. The Compute-Storage Program is currently on budget and expected to be completed in 2020. In
2018, the Trustees approved expenditures of $8,463,609 for the Cyber Program for 2019. The Cyber Program for 2019 was successfully completed within budget.

The Cyber Resilience Program is one of four IT-related capital expenditure authorization requests that will be presented to the Trustees at their March 31, 2020 meeting. No contract awards are being requested at this time. Any future contract requests associated with this program will be in accordance with the Authority’s Expenditure Authorization Procedures.

DISCUSSION

The Cyber Resilience Program is focused on fortifying the Authority’s systems with state-of-the-art solutions needed to detect and defend NYPA from constantly evolving threats, and vulnerabilities. This program is designed to support the implementation, lifecycle and modernization of the existing portfolio of cyber protection and detection systems. It includes work related to the sustainment, enhancement and integration related to protecting NYPA’s business.

IT Cyber Security Initiatives are focused into strategic sub-programs representing a variety of state-of-the-art security solutions needed to deliver the security requirements of the NYPA business community. These strategic efforts are to improve services, delivery and security around NYPA’s digital vision.

- Segmentation solutions will enable visibility, monitoring and security of various zones of protection both within and externally to NYPA. Technologies will focus on software defined networks, orchestration and access authorization and authentication. This will reduce attack surface and data leakage risks.

- Access Anywhere solutions will focus on the delivery of information, services and software to any device anywhere with proper visibility, monitoring and security controls. Automated and managed services focused at effective cost controls will allow greater speed and enhanced self-service.

- IT / OT Visibility consists of assessment, acquisition and implementation of solutions and architecture standards to incorporate operational technology systems and networks into centralized monitoring, asset control and advance security solutions.

- Threat and Vulnerability & Incident Management will enable consistent, rapid engagement, and communication of security events, threats, and vulnerabilities to mitigate security risks more quickly in a standardized and repeatable way.

The current capital expenditure authorization request for the Cyber Resilience Program is based on the projected expenditures for the 2020-2023 period. The program will involve engineering design, new hardware and software, installation and testing.

The major components of the funding for the Cyber Resilience Program are as follows:

- Procurement $12,930,375
- Construction/Installation $14,088,721
• Internal Labor $2,162,769
• HQ Overhead $1,459,093

Total $30,640,958

While the capital expenditure authorization request is for the full amount, any expenses deemed to be operating expenses under applicable accounting standards would be funded from the Authority’s operating funds.

FISCAL INFORMATION

The projected expenditures in 2020 for the Cyber Resilience Program were included in the Authority’s 2020 Budget. Payments associated with the Cyber Resilience Program will be made from the Capital Fund, to the extent properly capitalized or capitalizable, and from operating funds.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve capital expenditures in the amount of $30,640,958 for the Cyber Resilience Program.

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
RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $30,640,958 for the Cyber Resilience Program.

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure Authorization</th>
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<tbody>
<tr>
<td>Cyber Resilience Program</td>
<td>$ 30,640,958</td>
</tr>
</tbody>
</table>
To: THE FINANCE COMMITTEE  
From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER  
Subject: Data Management Program - Capital Expenditure Authorization Request

SUMMARY

The Trustees will be requested at their March 31, 2020 meeting to approve a capital expenditure authorization request of $10,816,679 for the Data Management Program. The Data Management Program is a transformational program that will focus on providing the tools that enable the management of data throughout its entire lifecycle and maximize the value that can be derived from that data.

The request represents the projected expenditures for the Data Management Program over the period from 2020-2021. The Authority’s 2020 Budget includes approximately $8,559,179 for the Data Management Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditure authorization request of $10,816,679.

BACKGROUND

In accordance with the Authority’s Capital Planning and Budget Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

The Authority’s Information Technology department (“NYPA IT”) previously outlined to the Trustees’ a comprehensive multi-year strategy to support the Authority’s top priorities and initiatives enabling the Authority’s digital transformation. As part of the multi-year strategy, NYPA IT has re-organized its previously identified core programs to sufficiently account for changes in priorities and to more accurately align to ongoing enterprise strategies as it moves into the future. The goals of the strategy and the eight new programs, including the Data Management Program, are described in more detail in “Exhibit A.”
In 2019, NYPA IT focused on the acceleration of the enterprise compute and storage program, and its related critical infrastructure components. This effort provided the modern technological foundation and capacity for NYPA to avail itself of leading and bleeding edge solutions required by its digital transformation strategy for 2020 and beyond. In May 2019, the Trustees approved expenditures of $34,020,924 for the Compute-Storage Program. The Compute-Storage Program is currently on budget and expected to be completed in 2020. In 2018, the Trustees approved expenditures of $8,463,609 for the Cyber Program for 2019. The Cyber Program for 2019 was successfully completed within budget.

The Data Management Program is one of four IT-related capital expenditure authorization requests that will be presented to the Trustees at their March 31, 2020 meeting. No contract awards are being requested at this time. Any future contract requests associated with this program will be in accordance with the Authority’s Expenditure Authorization Procedures.

DISCUSSION

The Data Management Program will focus on providing the tools that enable the management of data throughout its entire lifecycle and maximize the value that can be derived from that data. This program is targeted to the acquisition and implementation of the technology required to manage NYPA’s “Data-as-an-Asset” program and to provide a single foundational data service for data integration, analytics and self-service. The Data Management Program will include, but not be limited to, Work Packages in the areas of:

- Enable a data integration framework to combine and transform data from disparate sources and types
- Establish data governance capabilities to ensure all data and models are managed, end-to-end, within the EDAP while also enabling self-service capabilities
- Establish data analytics capabilities that allow data scientists and business users to analyze data and build complex models & algorithms to generate business insights.

The current capital expenditure authorization request for the Data Management Program is based on projected expenditures for the 2020-2021 period. The Data Management Program will involve engineering design, new hardware and software, installation and testing.
The major components of the funding for the Data Management Program are as follows:

- Procurement $ 2,834,100
- Construction/Installation $ 4,661,383
- Internal Labor $ 2,806,116
- HQ Overhead $ 515,080

Total $ 10,816,679

While the capital expenditure authorization request is for the full amount, any expenses deemed to be operating expenses under applicable accounting standards would be funded from the Authority’s operating funds.

FISCAL INFORMATION

The projected expenditures in 2020 for the Data Management Program were included in the Authority’s 2020 Budget. Payments associated with the Data Management Program will be made from the Capital Fund, to the extent properly capitalized or capitalizable, and from operating funds.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve capital expenditures in the amount of $10,816,679 for the Data Management Program.

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
RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $10,816,679 for the Data Management Program

<table>
<thead>
<tr>
<th>Capital</th>
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<tbody>
<tr>
<td>Data Management Program</td>
<td>$  10,816,679</td>
</tr>
</tbody>
</table>
Date: March 23, 2020

To: THE FINANCE COMMITTEE

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: Review and Approval of Amended Investment Policy Statement for the Other Post-Employment Benefits Trust

SUMMARY

The Trustees will be requested, at their March 23, 2020 meeting, to adopt an amended Other Post-Employment Benefits Trust Investment Policy Statement in order to support the continued growth and to strengthen fiduciary controls of the Trust.

The Finance Committee is requested to recommend that the Trustees adopt the amended Investment Policy Statement.

BACKGROUND

At their July 31, 2007 meeting, the Trustees (1) approved the creation of the Power Authority of the State of New York Other Post-Employment Benefits Trust (the “Trust”); (2) adopted the Trust Investment Policy Statement; (3) appointed a Trustee Custodian and (4) approved an initial $225 million funding plan. Subsequently, in October 2011, the Trustees approved an on-going annual funding plan for the OPEB Trust and certain amendments to the Investment Policy Statement clarifying diversification and credit quality standards.

DISCUSSION

The Trust Investment Policy Statement is a document that outlines and discusses the Trust’s investment objectives and includes a strategy for diversification among several asset types and classes so as to be aligned with the Authority’s overall return objectives and risk tolerances.

The establishment of the Trust, in addition to securing the Authority’s ability to meet its OPEB obligations, reduces the net cost of the obligations by providing investment earnings to offset the anticipated growth in benefit expenditures. Moreover, the establishment of the separate Investment Policy for the Trust allows investment in longer term and generally higher yielding investments than the Authority’s general funds.

Staff is recommending several amendments to the Investment Policy Statement (“IPS”) for the New York Power Authority Other Post-Employment Benefit Trust Fund. The IPS has not been amended since October 2011, which clarified diversification and credit quality restrictions but did not address asset classes, fiduciary controls or regulatory shifts since the Financial Crisis.
A marked version of the IPS showing the recommended changes is attached as Exhibit A with any additions shown as underlined and any deletions shown as strikethroughs. A final version of the amended IPS is attached as Exhibit B.

In order to develop a more effective and contemporary policy statement, the OPEB Investment Committee with the help of consultant NEPC engaged in a portfolio analysis session, reviewed the Authority’s annual Asset Allocation Study and reviewed the investment policy statements of the New York State and Local Employees’ Retirement Fund, Teachers Fund and Firefighters’ Fund, among others. Subsequently, Authority staff and NEPC developed alternative asset allocation models, reviewed capital market assumptions and determined the probability of achieving the desired investment objectives of the Trust.

Based on the various model tests and the Trust’s objectives and risk tolerances, asset class weighting targets and ranges were recommended as follows:

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Range</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Equity</td>
<td>37% - 47%</td>
<td>27%</td>
</tr>
<tr>
<td>International Equity</td>
<td>14% - 24%</td>
<td>23%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>25% - 35%</td>
<td>21%</td>
</tr>
<tr>
<td>Private Markets (Private Equity/Debt)</td>
<td>0 - 15%</td>
<td>11%</td>
</tr>
<tr>
<td>Public Real Estate Investment Trust</td>
<td>0 - 6%</td>
<td>3%</td>
</tr>
<tr>
<td>Private Real Estate</td>
<td>0 - 10%</td>
<td>8%</td>
</tr>
<tr>
<td>Real Assets (Infrastructure/Land)</td>
<td>0 - 6%</td>
<td>4%</td>
</tr>
<tr>
<td>Cash Equivalent</td>
<td>0% - 10%</td>
<td>3%</td>
</tr>
</tbody>
</table>

In addition, the OPEB Investment Committee and NEPC updated the IPS to reflect “best practice” language to improve both fiduciary control and include social governance as follows:

- Clarified review responsibilities by the OPEB Investment Committee
- Adjustment of Trust investment time horizon to 30 years from 20 years
- Consideration to hire a proxy service
- Consideration of Environmental, Social and Governance factors when selecting investment managers
- Prohibition of direct investment in fossil fuel companies
- Additional requirements on asset rebalancing
- Updates to permitted investment vehicle structures

FISCAL INFORMATION

As of December 31, 2019, the market value of assets held in the OPEB Trust Fund totaled approximately $686 million, of which $428 million were invested in equities, $203 million were invested in fixed income securities, and $39 million were invested in real estate investment trust securities.
RECOMMENDATION

The Executive Vice President and Chief Financial Officer requests that the Finance Committee recommend that the Trustees adopt the amended OPEB Trust Investment Policy Statement.

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
RESOLVED, That the Finance Committee hereby recommends that the Trustees adopt the amended Other Post-Employment Benefits Trust Investment Policy Statement to both support the continued growth and strengthen the fiduciary control of the Trust as discussed in the foregoing memorandum of the President and Chief Executive Officer.
Date: March 23, 2020

To: THE FINANCE COMMITTEE

From: THE TREASURER

Subject: 2020 Plan of Finance - Series 2020 Revenue Bonds, Commercial Paper Resolutions, and Revolving Credit Agreement

Set forth below is a summary of the actions that the Board of Trustees will be requested to take at the March 31, 2020 Board meeting regarding the above-captioned matter.

The Finance Committee is requested to recommend that the Trustees take the actions described in this memorandum.

A. Series 2020 Revenue Bonds and Plan of Finance

The staff of the Authority proposes the issuance of the Series 2020 Bonds, in an aggregate principal amount not to exceed $950 million, for the purpose of: (1) refunding all or a portion of the Commercial Paper Notes issued by the Authority to refund the Authority’s Series 2007 A Revenue Bonds and the Authority’s Series 2007 C Revenue Bonds in December 2019, (2) refunding all or a portion of the Authority’s Series 2011 A Revenue Bonds for net present value savings, (3) recovering capital spending and construction work in progress for the period 2017 - 2019 related to the Authority’s transmission assets, the St. Lawrence generation facility, the Niagara generation and Lewiston pump assets and other generation and asset expenditures deemed appropriate for the financing contemplated herein in the amount of approximately $300 million, (4) new money of in the amount of approximately $300 million for expenditures pursuant to the Authority’s 2020-2023 Approved Budget and Financial Plan that includes approximately $890 million in expenditures for power generation, transmission, Canal Corporation, energy solutions and information technology improvements, and (5) paying financing costs related to the issuance of the Authority’s debt obligations, including underwriters’ discount, structuring fees, any insurance premiums, credit enhancement or liquidity fees related to obtaining any municipal bond insurance policy, other credit enhancement or liquidity facilities determined to be necessary or desirable and other costs incurred by the Authority in connection therewith.

The Series 2020 Bonds would be issued as senior lien revenue bonds under the Authority’s General Resolution Authorizing Revenue Obligations, adopted February 24, 1998, as amended and supplemented. The objectives of issuing the Series 2020 Bonds will include the return to and maintenance of 200 days cash on hand and maintenance of a debt to capitalization ratio below 50%. A due diligence process is currently underway with bond counsel, Hawkins Delafield & Wood, and our financial advisor, PFM, to determine the appropriate mix of green, taxable and tax-exempt bonds with an express desire to capture as much of this capacity as possible under a Green Bond issuance. The Authority proposes to issue the Series 2020 Bonds as either fixed or variable rate bonds but anticipates issuing at a fixed rate based on the beneficial issuer environment at present with an opportunity to significantly reduce the Authority’s overall cost of debt with this issuance.
The purpose of the 2020 plan of finance as described herein is to pay for or reimburse capital expenditures, replenish financial metrics in line with the maintenance of the Authority’s AA rating and produce present value savings on debt service.

In addition, to further enhance the Authority’s financial flexibility, the staff of the Authority proposes: (a) amending the resolutions authorizing commercial paper notes previously adopted by the Authority (the “Commercial Paper Resolutions”) to expand the permissible uses of the Commercial Paper Notes issued thereunder to include any corporate purpose of the Authority and (b) amending the 2019 Revolving Credit Agreement, with JP Morgan Chase Bank, National Association, as Administrative Agent (the “Revolving Credit Agreement”), to (i) expand the purposes for which the Authority may borrow amounts thereunder, (ii) increase the amount that the Authority may borrow thereunder to up to $950 million, (iii) revise the terms and conditions upon which amounts borrowed thereunder may be repaid, and (iv) otherwise revise terms to benefit the Authority. To the extent one or more of the banks or the administrative agent under the Revolving Credit Agreement are unable or unwilling to accommodate the Authority’s proposed revisions, the Authority proposes to enter into one or more separate revolving credit or term loan agreements with one or more banks or other financial institutions authorized by the Trustees to enter into such transactions with the Authority to achieve such purposes.

B. The Resolutions Regarding the Series 2020 Bonds, Commercial Paper Program and Revolving Credit Agreement

A summary of the principal terms of the resolutions attached as Exhibit A presented to this Finance Committee for recommendation to the Trustees for consideration is set forth below.

(1) Amended and Restated Eleventh Supplemental Resolution

Adoption of the Amended and Restated Eleventh Supplemental Resolution Authorizing Series 2020 Revenue Bonds (“Eleventh Supplemental Resolution” and attached as Exhibit A-1), which authorizes the issuance of the Series 2020 Bonds, in an aggregate principal amount not to exceed $950 million for the purposes discussed above.

(2) Series 2020 Bonds

(a) The sale of the Series 2020 Bonds to one or more underwriters as may be selected by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer from the prequalified pool of underwriters also presented before the Finance Committee for discussion and recommendation to the Trustees for their March 31, 2020 Board meeting, at such prices as any such officer may accept and as will be in compliance with the requirements of the Eleventh Supplemental Resolution is authorized.

(b) The Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer and other specified officers are each authorized to execute a Contract of Purchase, providing for the sale of the Series 2020 Bonds to such underwriters, a Continuing Disclosure Agreement with The Bank of New York Mellon relating to the Series 2020 Bonds, a private placement agreement or other bank financing agreement, and miscellaneous other documents and instruments.

(c) To the extent that it is determined to issue variable rate Series 2020 Bonds, the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer and other specified officers are also authorized to enter into any related remarketing agreements and liquidity and credit agreement.

(d) The Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer and other specified officers are authorized to approve the issuance of one or more Preliminary Official Statements and final Official Statements relating to the Series 2020 Bonds. A draft of the Preliminary Official Statement is attached as Exhibit A-2.
(3) Registrar, Paying Agent and Escrow Agent for the Series 2020 Bonds

The Bank of New York Mellon will be appointed as Registrar and Paying Agent for the Series 2020 Bonds.

(4) Amendments to Commercial Paper Resolutions and Revolving Credit Agreement

(a) The amendments to the commercial paper resolutions will provide that commercial paper may be issued, and the proceeds of each series of commercial paper notes may be applied, for the payment of any capital expenditures, operating expenses or any other lawful corporate purpose of the Authority.

(b) The Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer are authorized to execute amendments to the Revolving Credit Agreement to (a) increase borrowing capacity thereunder by not more than an additional $250,000,000, (b) acknowledge that the commercial paper resolutions have been amended and supplemented as described in (4)(a) above, and (c) extend the term by which amounts borrowed thereunder may be repaid to a date not longer than 15 years from the date of such borrowing and (d) otherwise renegotiate and revise the terms of the Revolving Credit Agreement to benefit the Authority. The Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer and all other officers of the Authority are authorized and directed to carry out or cause to be carried out all obligations of the Authority set forth in said amendments upon execution thereof and subject to approval as to the form thereof by the Executive Vice President and General Counsel.

(c) In addition, in the event one or more of the banks or the administrative agent is unwilling or unable to accommodate the Authority’s request for the amendments described above, the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer will be authorized on behalf of the Authority, execute one or more separate revolving credit or term loan agreements for an amount up to $250 million with one or more of the banks and or the administrative agent or other financial institutions authorized by the Trustees to enter into such transactions with the Authority subject to the limitations set forth above subject to approval as to the form thereof by the Executive Vice President and General Counsel.

RECOMMENDATION

The Treasurer recommends that the Finance Committee recommend that the Board of Trustees take the above requested actions by adoption of the resolution below.

Christina Reynolds
Treasurer
RESOLUTION

RESOLVED, that the Finance Committee recommends that the Board of Trustees approve the 2020 plan of finance and its related resolutions, attached as Exhibit A, as discussed in the attached memorandum of the Treasurer, at the Board’s March 31, 2020 meeting.
POWER AUTHORITY OF THE STATE OF NEW YORK

PROPOSED ISSUANCE OF ONE OR MORE SERIES OF  2020 REVENUE BONDS, PROPOSED AMENDMENT OF EXISTING RESOLUTIONS REGARDING COMMERCIAL PAPER NOTES, PROPOSED AMENDMENT OF REVOLVING CREDIT AGREEMENT RELATING TO COMMERCIAL PAPER NOTES AND RELATED ACTIONS AND APPROVALS

WHEREAS, the Authority proposes to issue multiple series of Revenue Bonds (the “Series 2020 Bonds”), simultaneously or at different times in an aggregate principal amount of not more than $950,000,000 for the following purposes: (i) refunding all or a portion of the Commercial Paper Notes (the “Interim Notes”) issued by the Authority to refund the Authority’s Series 2007 A Revenue Bonds and Series 2007 C Revenue Bonds; (ii) refunding all or a portion of the Authority’s Series 2011 A Revenue Bonds, (iii) financing and reimbursing capital expenditures and construction work in progress for the period 2017 - 2019 related to NYPA’s Transmission Assets, the St. Lawrence generation facility, the Niagara generation and Lewiston pump assets and other generation and asset expenditures, (iv) financing and reimbursing expenditures incurred and to be incurred pursuant to the Authority’s 2020-2023 Approved Budget and Financial Plan for Power Generation, Transmission, Energy Solutions and Information Technology improvements, and (v) paying and reimbursing financing costs related to the issuance of the Authority’s debt obligations, including underwriters’ discount, structuring fees, any insurance premiums, credit enhancement or liquidity fees related to obtaining any municipal bond insurance policy, other credit enhancement or liquidity facilities determined to be necessary or desirable, swap terminations and other costs incurred by the Authority in connection therewith;

WHEREAS, on February 24, 1998, the Authority adopted its General Resolution Authorizing Revenue Obligations (the “General Bond Resolution”), which, consistent with the Power Authority Act, Title 1 of Article 5 of the Public Authorities Law, Chapter 43-A of the Consolidated Laws of the State of New York, as amended from time to time, authorizes special obligations of the Authority (hereinafter “Bonds”), in accordance with the terms thereof for any lawful purpose;

WHEREAS, the General Bond Resolution requires that the issuance of each series of Bonds by the Authority shall be authorized by a supplemental resolution or resolutions of the Authority adopted at or prior to the time of issuance, subject
to further delegation to certain officers to establish the details of the terms of such Bonds;

WHEREAS, the Authority adopted an Eleventh Supplemental Bond Resolution to the General Bond Resolution on November 7, 2016 (the “2016 Supplemental Resolution”) authorizing the issuance of one or more series of Bonds to finance certain of the purposes and costs now proposed to be financed, but no Bonds were issued thereunder:

WHEREAS, duly authorized officers of the Authority have caused to be prepared and submitted to the Trustees an amended and restated form of the 2016 Supplemental Resolution (such amended and restated form of Supplemental Resolution being hereinafter referred to as the “Eleventh Supplemental Resolution”), attached to this resolution as Exhibit A-1, which authorizes the issuance of one or more series of Series 2020 Bonds for the purposes of implementing the associated plan of finance;

WHEREAS, implementation of any financing will depend upon market conditions, final decisions as to which particular costs will be funded and other factors, and as a result thereof, the Authority may issue the Series 2020 Bonds as fixed rate or variable rate bonds, as tax-exempt or taxable bonds, or as combinations thereof;

WHEREAS, to the extent that Series 2020 Bonds are issued bearing fixed rates, such Series 2020 Bonds, at the date of their issuance, shall have a true interest cost not to exceed 6.00 percent, and to the extent that any Series 2020 Bonds are issued bearing variable rates, the initial rate or rates applicable to such Series 2020 Bonds at the date of their issuance shall not exceed 6.00 percent;

WHEREAS, it is anticipated that one or more contracts of purchase may be entered into with underwriters selected by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer, or Treasurer (each a “Designated Officer”) from a prequalified underwriting pool of Senior Managers, Co-Managers and Selling Group members approved by the Trustees at the March 31, 2020, Board Meeting (the “Prequalified Underwriting Pool”) which contracts of purchase will be in substantially the form of the Contract of Purchase previously entered into in connection with the sale of the Authority’s Series 2015 A Revenue Bonds (the “Series 2015 Bonds”), and in the event that one or more private placement, financing, or forward purchase or delivery agreements may be entered into, with such changes, insertions, deletions, amendments and
supplements as any Designated Officer may approve, subject to the requirements of the Eleventh Supplemental Resolution;

WHEREAS, it is anticipated that one or more series of the Series 2020 Bonds may be issued as “green bonds”;

WHEREAS, a Preliminary Official Statement relating to the Series 2020 Bonds is expected to be made available to potential purchasers of the Series 2020 Bonds, a draft form of which is attached to this resolution as Exhibit A-2;

WHEREAS, the Authority entered into that certain 2019 Revolving Credit Agreement, dated as of January 16, 2019, among the Authority, the banks identified therein (the “Banks”) and JP Morgan Chase Bank, N.A., as administrative agent (the “Administrative Agent”);

WHEREAS, in addition, the Authority entered into that certain Amendment No. 1, dated as of November 8, 2019 to the 2019 Revolving Credit Agreement referred to above among the Banks and the Administrative Agent (as amended, the “2019 Revolving Credit Agreement”);

WHEREAS, pursuant to the Existing Resolutions, as such term is defined in the 2019 Revolving Credit Agreement, the Authority authorized, among other actions, the issuance of certain series of commercial paper notes including Series 1 Notes, Series 2 Notes, Series 3 Notes, Series 4 Notes and Extended Municipal Commercial Paper Notes, as each such term is defined in the Revolving Credit Agreement (collectively “CP Notes”) and established certain terms and conditions applicable to each such series;

WHEREAS, each of the Existing Resolutions relating to CP Notes provides that the purposes for which CP Notes may be issued and the proceeds of the sale of CP Notes shall be applied may be revised for other purposes subsequently approved by the Authority’s Trustees;

WHEREAS, in order to enhance the Authority’s financial flexibility, the Authority proposes amend the Existing Resolutions relating to CP Notes to expand the permissible uses of CP Notes to include any corporate purpose of the Authority;

WHEREAS, in addition, the Authority proposes to further amend the 2019 Revolving Credit Agreement to expand the purposes for which the Authority may borrow amounts thereunder, increase the amount that the Authority may borrow thereunder, revise the terms and conditions upon which amounts borrowed
thereunder may be repaid, and otherwise negotiate and revise the terms of the 2019 Revolving Credit Agreement to benefit the Authority;

WHEREAS, to the extent one or more of the Banks or the Administrative Agent are unable or unwilling to accommodate the Authority’s proposed revisions, the Authority proposes to enter into a separate revolving credit or term loan agreement with one or more Banks or other financial institutions authorized by the Trustees to enter into such transactions with the Authority to achieve such purposes;

WHEREAS, the Finance Committee of the Trustees has reviewed and considered the proposed issuance of the Series 2020 Bonds and the associated plan of finance and has recommended the approval thereof; and

WHEREAS, the Finance Committee of the Trustees has reviewed and considered the proposed revisions regarding CP Notes and the 2019 Revolving Credit Agreement and the associated plan of finance and has recommended the approval thereof.

NOW THEREFORE BE IT RESOLVED AS FOLLOWS:

Section 1. One or more series of the Series 2020 Bonds shall be sold, subject to the limitations described below, to underwriters selected by a Designated Officer from the Prequalified Underwriting Pool, or privately placed with one or more investors or financial institutions, at such prices, with accrued interest, if any, on such Bonds from the date of issue of said Bonds to the date of delivery and payment for said Bonds, as any Designated Officer may approve and as will be in compliance with the requirements of the Eleventh Supplemental Resolution, and pursuant to a Contract of Purchase or a placement, financing, or forward purchase or delivery agreement, and upon the basis of the representations therein set forth.

Section 2. The Designated Officers shall be, and each of them hereby is, authorized on behalf of the Authority, subject to the limitations described below, to execute one or more Contracts of Purchase substantially in the form entered into in connection with the Series 2015 Bonds, providing for the sale of one or more series of the Bonds to said purchasers, and in the event that one or more placement, financing, loan, or forward purchase or delivery agreements with one or more investors or financial institutions may be entered into, with such changes, insertions, deletions, amendments and supplements as any Designated Officer may approve, subject to the requirements of the Eleventh Supplemental Resolution, and to deliver it to said purchasers; and that said officers and all other officers of the
Authority are each hereby authorized and directed to carry out or cause to be carried out all obligations of the Authority set forth in said Contracts of Purchase or placement, financing, loan or forward purchase or delivery agreements upon execution thereof and that the execution of the Contracts of Purchase or placement, financing, loan or forward purchase or delivery agreements relating to the Series 2020 Bonds by any of said authorized officers be conclusive evidence that any conditions imposed by the Trustees have been satisfied and the sale and issuance of the Series 2020 Bonds has been authorized by the Authority’s Board of Trustees.

Section 3. The Eleventh Supplemental Resolution in the form presented to this meeting (attached hereto as Exhibit A-1) and made a part of this resolution as though set forth in full herein, is hereby approved and adopted. The Designated Officers shall be, and each of them hereby is, authorized on behalf of the Authority to deliver the Eleventh Supplemental Resolution to the Trustee (as defined in the General Resolution), with such amendments, supplements, changes, insertions and omissions thereto as may be approved by the Chairman or the President and Chief Executive Officer, which amendments, supplements, insertions and omissions shall be deemed to be part of such resolution as approved and adopted hereby.

Section 4. The Designated Officers shall be, and each of them hereby is, authorized to make such changes, insertions, deletions, amendments and supplements, to or from the draft form of the Preliminary Official Statement relating to the Series 2020 Bonds (attached hereto as Exhibit A-2) as may be approved by any such officer, including, without limitation, such modifications as are necessary to conform such document to the Authority’s Annual 2019 Financial Report and the Authority’s 2020-2023 Approved Budget and Financial Plan, and upon the completion of any such modifications, such officer is authorized to execute such certificates as may be requested by the underwriters to certify on behalf of the Authority that such Preliminary Official Statement is “deemed final” for purposes of Rule 15c2-12 under the Securities Exchange Act of 1934, subject to the omission of such information as is permitted by such Rule. The distribution of one or more Preliminary Official Statements relating to the Series 2020 Bonds to all interested persons in connection with the sale of such Bonds is hereby approved.

Section 5. The Designated Officers shall be, and each of them hereby is, authorized to adopt and execute on behalf of the Authority one or more final Official Statements or private placement memoranda of the Authority relating to the Series 2020 Bonds, in such form and substance as such officer deems necessary or desirable, and the delivery of each said Official Statement or placement memorandum to the purchasers of said Bonds is hereby authorized, and the
Authority hereby authorizes each said Official Statement or placement memorandum and the information contained therein to be used in connection with the sale and delivery of the Series 2020 Bonds.

Section 6. If it is determined to be necessary or advisable, the Designated Officers shall be, and each of them hereby is, authorized on behalf of the Authority to obtain one or more bond insurance policies, credit enhancement facilities or liquidity facilities for each series of the Series 2020 Bonds with such terms and conditions as such officer deems necessary or advisable, and which a Designated Officer may select, covering scheduled payments of principal of and interest on such Bonds, including mandatory sinking fund redemption payments.

Section 7. If it is determined to be necessary or advisable, the Designated Officers shall be, and each of them hereby is, authorized on behalf of the Authority to enter into one or more interest rate exchange agreements relating to any Series 2020 Bonds in a notional amount not greater than the principal amount of the related Series 2020 Bonds, with such terms and conditions and with such counterparties as such officer deems necessary or advisable.

Section 8. The Designated Officers and all other officers of the Authority shall be, and each of them hereby is, authorized and directed, for and in the name and on behalf of the Authority, to do any and all things and take any and all actions and execute and deliver any and all certificates, agreements and other documents, including but not limited to those actions, certificates, agreements and other documents described in the Eleventh Supplemental Resolution; the Contracts of Purchase; any placement, financing, loan or forward purchase or delivery agreements; and the other documents approved today or required in connection with the obtaining of one or more bond insurance policies, credit enhancement facilities, or liquidity facilities, which they, or any of them, may deem necessary or advisable in order to (i) consummate the lawful sale, issuance and delivery of the Series 2020 Bonds; (ii) implement any action permitted to be taken by the Authority under the Eleventh Supplemental Resolution; the Contracts of Purchase; any placement, financing, or forward purchase or delivery agreements; and the other agreements and documents approved today following the issuance of the Series 2020 Bonds; and (iii) effectuate the purposes of the transactions and documents approved today.

Section 9. The Bank of New York Mellon is hereby appointed as Registrar and Paying Agent for the Series 2020 Bonds under the General Resolution and as escrow agent for the Refunded Bonds if an escrow account is established for such Refunded Bonds.
Section 10. The Designated Officers shall be, and each of them hereby is, authorized to execute one or more Continuing Disclosure Agreements relating to the Series 2020 Bonds between the Authority and The Bank of New York Mellon, as Trustee under the General Resolution, in substantially the form of the continuing disclosure agreement attached to the draft Preliminary Official Statement presented to this meeting, each with such changes, insertions, deletions, and supplements, as such authorized executing officer deems in his or her discretion to be necessary or appropriate, such execution to be conclusive evidence of such approval.

Section 11. The Existing Resolutions relating to CP Notes are hereby each amended and supplemented to provide that CP Notes may be issued, and the proceeds of each series of CP Notes shall be applied for the payment of any capital expenditures, operating expenses or any other lawful corporate purpose of the Authority.

Section 12. The Designated Officers shall be, and each of them hereby is, authorized on behalf of the Authority, subject to the limitations described below, to execute amendments to the 2019 Revolving Credit Agreement (a) increasing the borrowing capacity thereunder by not more than an additional $250,000,000, (b) acknowledging that the Existing Resolutions relating to CP Notes have been amended and supplemented as set forth in Section 11 above and that amounts available thereunder may be borrowed for the Authority’s general corporate purposes, (c) extending the term by which amounts borrowed thereunder may be repaid to a date not longer than 15 years from the date of such borrowing, and (d) otherwise renegotiating and revising the terms of the 2019 Revolving Credit Agreement to benefit the Authority; and that said officers and all other officers of the Authority are each hereby authorized and directed to carry out or cause to be carried out all obligations of the Authority set forth in said amendments upon execution thereof and subject to approval as to the form thereof by the Executive Vice President and General Counsel.

Section 13. In the event one or more of the Banks or the Administrative Agent is unwilling or unable to accommodate the Authority’s request for the amendments described above, the Designated Officers shall be, and each of them is hereby authorized on behalf of the Authority, execute one or more separate revolving credit or term loan agreements with one or more of the Banks and or the Administrative Agent or other financial institutions authorized by the Trustees to enter into such transactions with the Authority subject to the limitations set forth above subject to approval as to the form thereof by the Executive Vice President and General Counsel.
Section 11. The Designated Officers, and all other officers of the Authority shall be, and each of them hereby is, authorized and directed, for and in the name and on behalf of the Authority, to do any and all things and take any and all actions and execute and deliver any and all certificates, agreements and other documents, which they, or any of them, may deem necessary or advisable in order to effectuate the foregoing resolutions.
EXHIBITS

Exhibit A-1: Eleventh Supplemental Resolution Authorizing Series 2020 Bonds, as amended and restated

Exhibit A-2: Draft of Preliminary Official Statement relating to the Series 2020 Bonds
POWER AUTHORITY OF THE STATE OF NEW YORK

ELEVENTH SUPPLEMENTAL RESOLUTION

authorizing

REVENUE BONDS

Adopted on November 7, 2016, as amended and restated March 31, 2020
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ELEVENTH SUPPLEMENTAL RESOLUTION

authorizing

REVENUE BONDS

BE IT RESOLVED by the Trustees of the Power Authority of the State of New York (the “Authority”) as follows:

ARTICLE I

DEFINITIONS AND STATUTORY AUTHORITY

101. **Supplemental Resolution; Authority.** This resolution, adopted on November 7, 2016, as amended and restated on March 31, 2020 (the “Eleventh Supplemental Resolution”), is supplemental to, and is adopted in accordance with Article VIII of a resolution adopted by the Authority on February 24, 1998, entitled “General Resolution Authorizing Revenue Obligations” (“General Resolution” and, as heretofore amended and supplemented and collectively with the Eleventh Supplemental Resolution, the “Resolution”), and is adopted pursuant to the provisions of the Act.

102. **Definitions.** (a) All terms which are defined in Section 101 of the General Resolution shall have the same meanings for purposes of this Eleventh Supplemental Resolution.

(b) In this Eleventh Supplemental Resolution:

“Beneficial Owner” means, for any Bond which is held by a nominee, the beneficial owner of such Bond.

“Bonds,” “Bonds of a Series,” or “Bonds of any Series” and words of like import shall mean each or all of a Series of Bonds issued pursuant hereto collectively, as the context may require.

“Certificate of Determination” means any certificate of the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or Treasurer of the Authority delivered pursuant to Section 204 of this Eleventh Supplemental Resolution, setting forth certain terms and provisions of the Bonds.

“Commercial Paper Rate,” with respect to Bonds of a Series, has the meaning set forth in the applicable Certificate of Determination.

“Commercial Paper Rate Mode” means the mode during which Bonds of a Series bear interest at a Commercial Paper Rate in accordance with the applicable Certificate of Determination.
“Credit Facility” means, with respect to any Series of the Bonds, a Credit Facility as defined in the General Resolution.

“Credit Facility Issuer” means the issuer of the Credit Facility specified in Section 308 hereof.

“Daily Rate,” with respect to Bonds of a Series, has the meaning set forth in the applicable Certificate of Determination.

“Daily Rate Mode” means the mode during which Bonds of a Series bear interest at a Daily Rate in accordance with the applicable Certificate of Determination.

“Depository Participant” means any Person for which the Securities Depository holds Bonds as securities depository.

“DTC” means The Depository Trust Company, New York, New York, or its successors.

“Escrow Agent” means any escrow agent for the Interim Notes or the Series 2011 A Revenue Bonds and its successor or successors and any other person which may at any time be substituted in its place.

“Fiduciary” or “Fiduciaries” means any Fiduciary (as defined in the General Resolution) and any Tender Agent, or any or all of them, as may be appropriate.

“Fixed Rate” means an interest rate fixed to the Maturity Date of the Bonds of a Series.

“Fixed Rate Mode” means the mode during which Bonds of a Series bear interest at a Fixed Rate in accordance with the applicable Certificate of Determination.

“Interest Period,” with respect to a Series of Bonds, has the meaning set forth in the applicable Certificate of Determination.

“Interim Notes” means the Authority’s Commercial Paper Notes issued to refund the Authority’s 2007 A Revenue Bonds and 2007 C Revenue Bonds or to renew such Commercial Paper Notes.

“Liquidity Facility” means any standby bond purchase agreement, letter of credit or similar obligation, arrangement or instrument issued or provided by a bank, insurance company or other financial institution which provides for payment of all or a portion of the Purchase Price (including accrued interest) of the Bonds of any Series that may be obtained by the Authority pursuant to Section 308 hereof.

“Liquidity Facility Issuer” means the issuer of a Liquidity Facility.

“Mandatory Purchase Date” for any Series of Bonds, means any date specified as such in the applicable Certificate of Determination.
“Maturity Date” means, with respect to any Bond, the final date specified therefor in the applicable Certificate of Determination, which shall not be later than forty years after the date of issuance.

“Maximum Rate” means for Bonds of a Series, such rate as may be specified in the applicable Certificate of Determination; provided, however, that in no event shall the Maximum Rate exceed the maximum rate permitted by applicable law.

“Mode” means the Daily Rate Mode, Term Rate Mode, the Weekly Rate Mode, the Fixed Rate Mode or any other method of determining the interest rate applicable to Bond of a Series permitted under the applicable Certificate of Determination.

“Mode Change Date” means, with respect to Bonds of a Series, the date one Mode terminates and another Mode begins.

“Purchase Date” for Bonds of a Series shall have the meaning set forth in the applicable Certificate of Determination.

“Purchase Fund” means a fund by that name that may be established by a Certificate of Determination pursuant to Section 303 hereof.

“Purchase Price” means the price at which Bonds subject to optional or mandatory tender for purchase are to be purchased as may be provided in the Certificate of Determination.

“Remarketing Agent” means the remarketing agent at the time serving as such for the Bonds of a Series (or portion thereof) pursuant to Section 402 hereof.

“Series 2020 Bonds” shall mean all the Bonds delivered on issuance in a transaction as identified pursuant to Sections 201 and 203 hereof or as identified in the Certificate of Determination regardless of variations in maturity, interest rate, or other provisions.

“Securities Depository” shall mean DTC as the Securities Depository appointed pursuant to Section 203(f) hereof, or any substitute Securities Depository, or any successor to DTC or any substitute Securities Depository.

“Tender Agent” means the Trustee as tender agent appointed for the Bonds pursuant to Section 403 hereof.

“Term Rate,” with respect to Bonds of a Series (or portion thereof), has the meaning set forth in the applicable Certificate of Determination.

“Term Rate Mode” means the mode during which Bonds of a Series (or portion thereof) bear interest at a Term Rate in accordance with the applicable Certificate of Determination.

“Weekly Rate,” with respect to Bonds of a Series, has the meaning set forth in the applicable Certificate of Determination.
“Weekly Rate Mode” means the mode during which Bonds of a Series bear interest at a Weekly Rate in accordance with the applicable Certificate of Determination.
ARTICLE II

AUTHORIZED OF BONDS

201. **Principal Amount, Designation and Series.** Pursuant to the provisions of the General Resolution, one or more Series of Obligations entitled to the benefit, protection and security of such provisions are hereby authorized with the following designations, or such other designations as shall be set forth in the Certificate of Determination: the “Series 2020 A Revenue Bonds”, the “Series 2020 B Revenue Bonds”, the “Series 2020 C Revenue Bonds” and the “Series 2020 D Revenue Bonds.” The aggregate principal amount of each Series of Bonds shall be set forth in the Certificate of Determination relating to the respective Bonds; provided that the aggregate principal amount of such Bonds shall not exceed $950,000,000. Individual maturities of the Bonds or portions thereof may bear such additional designations, if any, as may be set forth in the related Certificate of Determination. To the extent so provided in the applicable Certificate of Determination, any such Obligations may alternatively be designated as “Notes” and any reference herein to a Series of Bonds shall also refer to Obligations designated as Notes. In the event that any Series of Bonds is not issued in calendar year 2020, the applicable Certificate of Determination may (i) redesignate the year and Series of such Bonds and (ii) make any other conforming changes deemed necessary or appropriate to reflect the year of issuance. Each Series shall initially bear interest in accordance with the Mode as may be provided by the applicable Certificate of Determination.

202. **Purposes.** (a) The purposes for which the Bonds of any Series are to be issued shall include such of the following as shall be specified in the applicable Certificate of Determination:

(i) refunding all or a portion of the Interim Notes;

(ii) refunding all or a portion of the Authority’s Series 2011 A Revenue Bonds,

(iii) financing and reimbursing capital expenditures and construction work in progress for the period 2017 - 2019 related to NYPA’s Transmission Assets, the St. Lawrence generation facility, the Niagara generation and Lewiston pump assets and other generation and asset expenditures,

(iv) financing expenditures incurred and to be incurred pursuant to the Authority’s 2020-2023 Approved Budget and Financial Plan for Power Generation, Transmission, Energy Solutions and IT improvements,

(v) pay financing costs related to the issuance of the Authority’s debt obligations, including underwriters’ discount, structuring fees, any insurance premiums, credit enhancement or liquidity fees related to obtaining any municipal bond insurance policy, other credit enhancement or liquidity facilities determined to be necessary or desirable, swap terminations and other costs incurred by the Authority in connection therewith.
(b) Such portion of the proceeds of any Series of Bonds as may be specified in the applicable Certificate of Determination shall be applied for the purposes specified in subsection (a). All such proceeds shall be deposited and applied in accordance with the applicable Certificate of Determination.

203. Details of the Bonds. The following provisions set forth the details of the Bonds.

(a) Dates, Maturities and Interest. The Bonds of each Series shall be dated, shall mature and shall bear interest from the date as may be specified by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or the Treasurer of the Authority in the applicable Certificate of Determination pursuant to Section 204 hereof. Interest on the Bonds shall be payable semiannually (or at such other frequency as may be specified in the applicable Certificate of Determination) on the interest payment dates and at the respective rates per annum specified in the applicable Certificate of Determination. The Bonds shall be Tax-Exempt Obligations or Taxable Obligations, as specified in the Certificate of Determination. Interest on the Bonds shall be calculated as provided in the applicable Certificate of Determination.

The interest rates for the Bonds of a Series contained in the records of the Trustee shall be conclusive and binding, absent manifest error, upon the Authority, the Remarketing Agent, the Tender Agent, the Trustee, the Liquidity Facility Issuer, the Credit Facility Issuer, and the Owners.

The interest rate applicable during any Mode (other than a Fixed Rate determined on or prior to the date of issuance of the related Bonds) shall be determined in accordance with the applicable Certificate of Determination. Except as otherwise provided in the applicable Certificate of Determination, any such rate shall be the minimum rate that, in the sole judgment of the Remarketing Agent, would result in a sale of the Bonds of the Series at a price equal to the principal amount thereof on the date on which the interest rate on such Bonds is required to be determined in accordance with the applicable Certificate of Determination, taking into consideration the duration of the Interest Period, which shall be established by the Authority.

(b) Denominations. Except as otherwise provided in the applicable Certificate of Determination, the Bonds shall be issued in the form of fully registered Bonds in the denomination of $5,000 or any integral multiple of $5,000.

(c) Designations. Unless the Authority shall otherwise direct, the Bonds shall be issued in series, and shall be labeled as follows: The Bonds shall be lettered “2020 A”, “2020 B”, “2020 C” and “2020 D” depending on their respective series, and numbered consecutively from one upward as more particularly set forth in the applicable Certificate of Determination.
(d) Payment of Principal and Interest. Principal and Redemption Price of each Bond shall be payable at the Principal Office of the Trustee upon presentation and surrender of such Bond.

The Trustee shall indicate on the Bonds the date of their authentication as provided in Section 205 hereof. Interest on the Bonds shall be payable from the interest payment date next preceding the date of authentication to which interest shall have been paid, unless such date of authentication is an interest payment date, in which case from such date if interest has been paid to such date; provided, however, that interest shall be payable on the Bonds from such date as may be specified by the Chairman, President and Chief Executive Officer, the Executive Vice President and Chief Financial Officer or the Treasurer of the Authority pursuant to Section 204 hereof, if the date of authentication is prior to the first interest payment date therefor. Interest on the Bonds shall be payable on the interest payment dates specified in the applicable Certificate of Determination to the registered owner as of the close of business on the Record Date specified in the applicable Certificate of Determination, such interest to be paid by the Trustee by check mailed to the registered owner at his or her address as it appears on the books of registry; provided, however, that upon redemption of any Bond, the accrued interest payable upon redemption shall be payable at the Principal Office of the Trustee upon presentation and surrender of such Bond, unless the redemption date is an interest payment date, in which event the interest on such Bond so redeemed shall be paid by the Trustee by check mailed to the registered owner at his address as it appears on the books of registry.

The principal or Redemption Price of and interest on the Bonds shall also be payable at any other place which may be provided for such payment by the appointment of any other Paying Agent or Paying Agents as permitted by the General Resolution.

The foregoing provisions of this subsection (d) shall be subject to the provisions of subsection (f) of this Section.

The principal of and premium, if any, and interest on the Bonds shall be payable in any coin or currency of the United States of America which at the time of payment is legal tender for public and private debts.

(e) Trustee, Registrar, Paying Agent and Escrow Agent. The Bank of New York Mellon is the successor Trustee for the Obligations pursuant to Section 712 of the General Resolution. The Trustee is also hereby appointed as the Registrar and Paying Agent for the Bonds and, to the extent an escrow account is established in connection with the refunding of the Interim Notes and/or the Authority’s Series 2011 A Revenue Bonds, shall be the Escrow Agent with respect thereto.

(f) Securities Depository. The Bonds when initially issued shall be registered in the name of Cede & Co., as nominee of DTC, in the form of a single fully registered Bond for each maturity of the Bonds with a different interest rate applicable thereto. DTC is hereby appointed initial Securities Depository for the Bonds, subject to the provisions of subsection (g) of this Section. So long as DTC or its nominee, as Securities Depository, is
the registered owner of Bonds, individual purchases of beneficial ownership interests in Bonds may be made only in book-entry form by or through DTC participants, and purchasers of such beneficial ownership interests in Bonds will not receive physical delivery of bond certificates representing the beneficial ownership interests purchased.

So long as DTC or its nominee, as Securities Depository, is the registered owner of Bonds, payments of principal of and premium, if any, and interest on such Bonds will be made by wire transfer to DTC or its nominee, or otherwise as may be agreed upon by the Authority, the Trustee and DTC. Transfers of principal, premium, if any, and interest payments to DTC participants will be the responsibility of DTC. Transfers of such payments to Beneficial Owners of Bonds by DTC participants will be the responsibility of such participants and other nominees of such Beneficial Owners.

So long as DTC or its nominee, as Securities Depository, is the registered owner of Bonds, the Authority shall send, or cause the Trustee to send, or take timely action to permit the Trustee to send, to DTC notice of redemption of such Bonds and any other notice required to be given to registered owners of such Bonds pursuant to the Resolution, in the manner and at the times prescribed by the Resolution, except as may be agreed upon by the Authority, the Trustee (if applicable) and DTC.

Neither the Authority nor any Fiduciary shall have any responsibility or obligation to the DTC participants, Beneficial Owners or other nominees of such Beneficial Owners for (1) sending transaction statements; (2) maintaining, supervising or reviewing the accuracy of, any records maintained by DTC or any DTC participant or other nominees of such Beneficial Owners; (3) payment or the timeliness of payment by DTC to any DTC participant, or by any DTC participant or other nominees of Beneficial Owners to any Beneficial Owner, of any amount due in respect of the principal of or redemption premium, if any, or interest on Bonds; (4) delivery or timely delivery by DTC to any DTC participant, or by any DTC participant or other nominees of Beneficial Owners to any Beneficial Owner, of any notice (including notice of redemption) or other communication which is required or permitted under the terms of the Resolution to be given to holders or owners of Bonds; (5) the selection of the Beneficial Owners to receive payment in the event of any partial redemption of Bonds; or (6) any action taken by DTC or its nominee as the registered owner of the Bonds.

Notwithstanding any other provisions of this Eleventh Supplemental Resolution to the contrary, the Authority, the Registrar, Paying Agent, and the Trustee shall be entitled to treat and consider the person in whose name each Bond is registered in the books of registry as the absolute owner of such Bond for the purpose of payment of principal, Redemption Price, and interest with respect to such Bond, for the purpose of giving notices of redemption and other matters with respect to such Bond, for the purpose of registering transfers with respect to such Bond, and for all other purposes whatsoever. The Trustee shall pay all principal and Redemption Price of and interest on the Bonds only to or upon the order of the respective owners, as shown in the books of registry as provided in this Eleventh Supplemental Resolution, or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and
discharge the Authority’s obligations with respect to payment of principal and Redemption Price of and interest on such Bonds to the extent of the sum or sums so paid.

Notwithstanding any other provisions of this Eleventh Supplemental Resolution to the contrary, so long as any Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to principal and Redemption Price of, and interest on such Bond and all notices with respect to such Bond shall be made and given, respectively, pursuant to DTC’s rules and procedures.

Payments by the DTC participants to Beneficial Owners will be governed by standing instructions and customary practices, as is now the case with municipal securities held for the accounts of customers in bearer form or registered in “street name,” and will be the responsibility of such DTC participant and not of DTC, the Trustee or the Authority, subject to any statutory and regulatory requirements as may be in effect from time to time.

Provisions similar to those contained in this subsection (f) may be made by the Authority in connection with the appointment by the Authority of a substitute Securities Depository, or in the event of a successor to any Securities Depository.

Authorized Officers are hereby authorized to enter into such representations and agreements as they deem necessary and appropriate in furtherance of the provisions of this subsection (f).

(g) Replacement Bonds. The Authority shall issue Bond certificates (the “Replacement Bonds”) directly to the Beneficial Owners of the Bonds, or their nominees, in the event that DTC determines to discontinue providing its services with respect to the Bonds, at any time by giving notice to the Authority, and the Authority fails to appoint another qualified Securities Depository to replace DTC. In addition, the Authority also shall issue Replacement Bonds directly to the Beneficial Owners of the Bonds, or their nominees, in the event the Authority discontinues use of DTC as Securities Depository at any time upon determination by the Authority, in its sole discretion and without the consent of any other person, that Beneficial Owners of the Bonds shall be able to obtain certificated Bonds.

(h) Notices. In connection with any notice of redemption provided in accordance with Section 405 of the General Resolution, notice of such redemption shall also be sent by the Trustee by first class mail, overnight delivery service or other secure overnight means, postage prepaid, to the appropriate Credit Facility Issuer, to any Rating Agency and to the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access system, in each case not later than the mailing of notice required by the Resolution.

204. Delegation of Authority. (a) There is hereby delegated to the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer and the Treasurer of the Authority, and each of them hereby is authorized, subject to the limitations
contained herein, with respect to the Bonds of each Series to determine and effectuate the following:

   (i) the principal amount of the Bonds to be issued, provided that the aggregate principal amount of the Bonds to be issued shall not exceed $950,000,000;

   (ii) the date or dates, Maturity Date or dates and principal amount of each maturity of the Bonds, the interest payment date or dates of the Bonds, and the date or dates from which the Bonds shall bear interest;

   (iii) the interest rate or rates of the Bonds, which may include Commercial Paper Rates, Daily Rates, Term Rates, Fixed Rates, Weekly Rates, index-based rates, or other interest rate methodologies, provided, however, that (i) to the extent that fixed rate Bonds are issued, such Bonds, at the date of their issuance, shall have a true interest cost not to exceed [four and one-half percent \((4.50\%\)]), and (ii) to the extent that any variable rate Bonds are issued, the initial rate or rates applicable to such Bonds at the date of their issuance shall not exceed [four and one-half percent \((4.50\%\)]);

   (iv) the sinking fund installments for any term Bond and the methodology to be applied to reduce such installments upon redemption by the Authority, if any, of any such term Bond;

   (v) the portions of the proceeds of the Bonds of each Series and the amounts to be deposited and applied in accordance with Section 202 hereof;

   (vi) the redemption provisions of the Bonds;

   (vii) the tender provisions, if any, of the Bonds;

   (viii) whether each Series of such Bonds shall be Tax-Exempt Obligations or Taxable Obligations;

   (ix) whether each Series of such Bonds shall be sold by public sale or by placement of such Bonds with one or more investors or financial institutions;

   (x) the definitive form or forms of the Bonds and the definitive form or forms of the Trustee’s certificate of authentication thereon;

   (xi) additional or different designations, if any, for particular maturities of Bonds or portions thereof intended to distinguish such maturities or portions thereof from other Bonds;

   (xii) provisions that are deemed necessary or advisable by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or the Treasurer of the Authority in connection with the implementation and delivery to the Trustee of any Credit Facility or Liquidity Facility;
(xiii) obtaining municipal bond insurance or other Credit Facility or Liquidity Facility related to the Bonds of a Series or any portion thereof, and complying with any commitment therefor including executing and delivering any related agreement with any Credit Facility Issuer or Liquidity Facility Issuer, to the extent that the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or the Treasurer of the Authority determines that to do so would be in the best interest of the Authority; and

(xiv) any other provisions deemed advisable by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or the Treasurer of the Authority, not in conflict with the provisions hereof or of the General Resolution.

(b) The Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or Treasurer of the Authority shall execute one or more certificates evidencing determinations or other actions taken pursuant to the authority granted herein, an executed copy of which shall be delivered to the Trustee. Each such certificate shall be deemed a Certificate of Determination and shall be conclusive evidence of the action or determination of such officer as to the matters stated therein. The provisions of each Certificate of Determination shall be deemed to be incorporated in Article II hereof. No such Certificate of Determination shall, nor shall any amendment to this Eleventh Supplemental Resolution, change or modify any of the rights or obligations of the Credit Facility Issuer without its written assent thereto.

205. **Form of Bonds and Trustee’s Authentication Certificate.** Subject to the provisions of the General Resolution and to any amendment or modifications thereto or insertions therein as may be approved by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or the Treasurer of the Authority pursuant to Section 204 hereof, the form of the Bonds, form of assignment, and the Trustee’s Certificate of Authentication shall be in substantially the form set forth in Appendix A hereto, with necessary or appropriate variations, omissions and insertions as are incidental to their series, numbers, denominations, maturities, interest rate or rates, registration provisions, redemption provisions, status of interest to owners thereof for Federal income tax purposes, and other details thereof and of their form or as are otherwise permitted or required by law or by the Resolution, including this Eleventh Supplemental Resolution. Any portion of the text of any Bond may be set forth on the reverse thereof, with an appropriate reference thereto on the face of such Bond. Bonds may be typewritten, printed, engraved, lithographed or otherwise reproduced.

206. **Execution and Authentication of Bonds.** Notwithstanding the first sentence of paragraph 1 of Section 303 of the General Resolution, the Bonds shall be executed in the name of the Authority by the manual or facsimile signature of its Chairman, Vice Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or Treasurer, and its corporate seal (or a facsimile thereof) shall be affixed, imprinted, engraved or otherwise reproduced, and attested by the manual or facsimile signature of its Vice President and
Corporate Secretary, a Deputy Corporate Secretary, or an Assistant Corporate Secretary, or in such other manner as may be required by law.
ARTICLE III

REDEMPTION AND TENDER OF BONDS

301. **Optional and Sinking Fund Redemption.** Bonds of a Series shall be subject to optional and mandatory redemption as and to the extent and at the times and subject to such conditions, if any, as shall be specified in the applicable Certificate of Determination.

302. **Optional and Mandatory Purchase of Bonds.** The Bonds of a Series shall be subject to optional and mandatory tender for purchase to the extent, at the times and subject to such conditions as shall be set forth in the applicable Certificate of Determination.

303. **Purchase Fund.** A Purchase Fund may be established in a Certificate of Determination in connection with the delivery to the Trustee of a Liquidity Facility, which fund, if established, shall be held by the Tender Agent and may have such separate accounts as shall be established in such Certificate of Determination. Such Purchase Fund and accounts therein may be established for the purpose of depositing moneys obtained from (i) the remarketing of Bonds of a Series which is subject to tender for purchase in accordance with the applicable Certificate of Determination, (ii) draws under a Liquidity Facility and (iii) the Authority. Such deposited moneys shall be used solely to pay the Purchase Price of Bonds of such Series or to reimburse a Liquidity Facility Issuer.

304. **Remarketing of Bonds of a Series; Notices.** The Remarketing Agent for Bonds of a Series shall offer for sale and use its best efforts to find purchasers for all Bonds of such Series required to be tendered for purchase. The applicable Certificate of Determination shall prescribe provisions relating to the notices which shall be furnished by the Remarketing Agent in connection with such remarketing and as to the application of the proceeds of such remarketing.

305. **Source of Funds for Purchase of Bonds of a Series.** (a) Except as may otherwise be provided in the applicable Certificate of Determination, the Purchase Price of the Bonds of a Series on any Purchase Date shall be payable solely from proceeds of remarketing of such Series or proceeds of a related Liquidity Facility (including moneys that are borrowed by the Authority pursuant to a Liquidity Facility), if any, and shall not be payable by the Authority from any other source.

(b) As may be more particularly set forth in the applicable Certificate of Determination, on or before the close of business on the Purchase Date or the Mandatory Purchase Date with respect to Bonds of a Series, the Tender Agent shall purchase such Bonds from the Owners at the Purchase Price. Except as otherwise provided in a Certificate of Determination, funds for the payment of such Purchase Price shall be derived in the order of priority indicated:

(i) immediately available funds transferred by the Remarketing Agent to the Tender Agent derived from the remarketing of the Bonds; and
(ii) immediately available funds transferred by the Liquidity Facility Issuer (or the Authority to the Tender Agent, if the Liquidity Facility permits the Authority to make draws thereon), including, without limitation, amounts available under the Liquidity Facility.

306. **Delivery of Bonds.** Except as otherwise required or permitted by the book-entry only system of the Securities Depository and in the applicable Certificate of Determination, the Bonds of a Series sold by the Remarketing Agent shall be delivered by the Remarketing Agent to the purchasers of those Bonds at the times and dates prescribed by the applicable Certificate of Determination. The Bonds of a Series purchased with moneys provided by the Authority shall be delivered at the direction of the Authority. The Bonds of a Series purchased with moneys drawn under a Liquidity Facility shall be delivered as provided in such Liquidity Facility.

307. **Delivery and Payment for Purchased Bonds of a Series; Undelivered Bonds.** Each Certificate of Determination shall provide for the payment of the Purchase Price of purchased bonds of the related Series and shall also make provision for undelivered Bonds.

308. **Credit Facility and Liquidity Facility.** (a) At any time and subject to such limitations and other provisions as may be set forth in the applicable Certificate of Determination, the Authority may obtain or provide for the delivery to the Trustee of a Liquidity Facility and/or a Credit Facility from a Liquidity Facility Issuer and/or Credit Facility Issuer as may be selected by the Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer or the Treasurer of the Authority and specified in the applicable Certificate of Determination with respect to the Bonds of any Series.

(b) Each Liquidity Facility shall provide for draws thereon or borrowings thereunder, in the aggregate, in an amount at least equal to the amount required to pay the Purchase Price for the related Bonds of a Series. Except as may otherwise be provided in the applicable Certificate of Determination, the obligation of the Issuer to reimburse the Liquidity Facility Issuer or to pay the fees, charges and expenses of the Liquidity Facility Issuer under the Liquidity Facility shall constitute a Parity Reimbursement Obligation within the meaning of the Resolution and shall be secured by the pledge of and lien on the Trust Estate created by Section 501 of the General Resolution.
ARTICLE IV
ADDITIONAL AUTHORIZATIONS; MISCELLANEOUS

401. **Tax Covenant.** (a) The Authority shall not take or omit to take any action which would cause interest on any 2020Series 2020 Bonds which are designated Tax-Exempt Obligations in an applicable Certificate of Determination to be included in the gross income of any Owner thereof for Federal income tax purposes by reason of subsection (b) of Section 103 of the Internal Revenue Code of 1986 (Title 26 of the United States Code) as in effect on the date of original issuance of such Obligations. Without limiting the generality of the foregoing, no part of the proceeds of any Tax-Exempt Obligations or any other funds of the Authority shall be used directly or indirectly to acquire any securities or obligations the acquisition of which would cause any Series of Bonds to be an “arbitrage bond” as defined in section 148 of the Internal Revenue Code of 1986 (Title 26 of the United States Code) as then in effect and to be subject to treatment under subsection (b)(2) of Section 103 of the Code as an obligation not described in subsection (a) of said section. The Authority shall pay to the United States any amounts that are necessary for the purpose of compliance with the provisions of Section 148 of the Code.

(b) Notwithstanding any other provision of the Resolution to the contrary, upon the Authority’s failure to observe, or refusal to comply with, the above covenant in paragraph (a), the Owners, or the Trustee acting on their behalf, shall be entitled only to the right of specific performance of such covenant, and shall not be entitled to any of the other rights and remedies provided under Article X of the General Resolution.

402. **Remarketing Agent.** The Authority shall appoint and employ the services of a Remarketing Agent prior to any Purchase Date or Mode Change Date while the Bonds of any Series are in the Daily Rate Mode, Weekly Rate Mode, the Term Rate Mode, or the Commercial Paper Mode. The Authority shall have the right to remove the Remarketing Agent as provided in the Remarketing Agreement.

403. **Tender Agent.** The Authority shall be authorized to and shall appoint and employ the services of the Trustee as Tender Agent pursuant to a Tender Agency Agreement prior to any Purchase Date or Mode Change Date while the Bonds of any Series are in the Daily Rate, Weekly Rate, the Term Rate Mode, or the Commercial Paper Mode. The Authority shall have the right to remove the Tender Agent as provided in the Tender Agency Agreement.

404. **Remarketing Agreements and Tender Agency Agreements.** The Authority hereby authorizes one or more Remarketing Agreements and Tender Agency Agreements with respect to the Bonds of any Series with such modifications and with such Remarketing Agents and such Tender Agents as any Authorized Officer, upon the advice of counsel to the Authority, approves. Any Authorized Officer of the Authority is hereby authorized to execute and deliver such Remarketing Agreements and such Tender Agency Agreements in connection with the original issuance of the Bonds of any Series or remarketing thereof, which execution and delivery shall be conclusive evidence of the approval of any such modifications.
405. **Certain Findings and Determinations.** The Trustees hereby find and
determine:

(a) The General Resolution has not been amended, supplemented, or repealed
since the adoption thereof except by the resolution of the Authority entitled “First
Supplemental Resolution Authorizing Series 1998 Revenue Bonds” adopted February 24,
1998, by the resolution of the Authority entitled “Second Supplemental Resolution
Authorizing Series 2000 A Revenue Bonds” adopted October 31, 2000, by the resolution
of the Authority entitled “Third Supplemental Resolution Amending the General
Resolution” adopted June 26, 2001, by the resolution of the Authority entitled “Fourth
Supplemental Resolution Authorizing Series 2001 A Revenue Bonds and Series 2002 A
Revenue Bonds” adopted September 25, 2001, by the resolution of the Authority entitled
“Fifth Supplemental Resolution Authorizing Series 2002 A Revenue Bonds” adopted
September 17, 2002, by the resolution of the Authority entitled “Sixth Supplemental
Resolution Authorizing Series 2003 A Revenue Bonds” adopted November 25, 2003, by
the resolution of the Authority entitled “Seventh Supplemental Resolution Authorizing
Series 2005 A and Series 2005 B Revenue Bonds” adopted September 20, 2005, by the
resolution of the Authority entitled “Eighth Supplemental Resolution Authorizing
2007, by the resolution of the Authority entitled “Ninth Supplemental Resolution
Authorizing Revenue Bonds” adopted October 26, 2010, and amended and restated July
26, 2011, and by the resolution of the Authority entitled “Tenth Supplemental Resolution
Authorizing Revenue Bonds” adopted September 29, 2015. This Eleventh Supplemental
Resolution supplements the General Resolution as heretofore amended and supplemented,
constitutes and is a “Supplemental Resolution” within the meaning of such quoted term as
defined and used in the General Resolution, and is adopted under and pursuant to the
General Resolution.

(b) The Bonds constitute and are “Obligations” within the meaning of the
quoted word as defined and used in the Resolution.

(c) Any municipal bond insurance policy issued by such municipal bond
insurance issuer as may be selected by the Chairman, President and Chief Executive
Officer, Executive Vice President and Chief Financial Officer or Treasurer of the Authority
and specified in the applicable Certificate of Determination, dated the Closing Date, shall
constitute and shall be required to be a “Credit Facility” within the meaning of the quoted
words as defined and used in the Resolution. Furthermore, any such municipal bond
insurance policy, including any charges, fees, costs and expenses that the Credit Facility
Issuer may for any Series of Bonds reasonably incur in the administration of the Credit
Facility, respectively, or in the pursuit of any remedies under the Resolution or otherwise
afforded by law or equity, shall constitute and shall be required to be a “Subordinated
Contract Obligation” within the meaning of the quoted words as defined and used in the
Resolution, provided, however, the Credit Facility Issuer shall, to the extent it makes any
payment of principal of or interest on the Bonds, become subrogated to the rights of the
recipients of such payments in accordance with the terms of the Credit Facility.
(d) The Trust Estate is not encumbered by any lien or charge thereon or pledge thereof, other than the parity lien and charge thereon and pledge thereof securing the Outstanding Obligations and Parity Debt, and the subordinate liens and charges thereon and subordinated pledge thereof created by the existing Subordinated Indebtedness and Subordinated Contract Obligations.

(e) There does not exist an “Event of Default” within the meaning of such quoted term as defined in Section 1001 of the General Resolution, nor does there exist any condition which, after the giving of notice or the passage of time, or both, would constitute such an “Event of Default.”

406. Notice to Owners upon Event of Default. (a) If an Event of Default occurs of which the Trustee has or is deemed to have notice under Section 702(c)(6) of the General Resolution, the Trustee shall give by telecopier or other electronic means or by telephone (promptly confirmed in writing) notice thereof to the Authority. Within two Business Days thereafter (unless such Event of Default has been cured or waived), the Trustee shall give notice of such Event of Default to each Owner, provided, however, that except in the instance of an Event of Default under Section 1001(i) or (ii) of the General Resolution, the Trustee may withhold such notice to Owners if and so long as the Trustee in good faith determines that the withholding of such notice is in the interests of Owners, and provided, further, that notice to Owners of any Event of Default under Section 1001(ii) or (iii) of the General Resolution shall not be given until the grace period has expired.

(b) For so long as the Bonds are registered solely in the name of the Securities Depository or its nominee, where the General Resolution provides for notice to the Owners of the Bonds of the existence of, or during the continuance of, any Event of Default, the Trustee shall: (i) establish a record date (the “Record Date”) for determining the identity of the Persons entitled to receive such notice; (ii) request a securities position listing from the Securities Depository showing the Depository Participants holding positions in the Bonds affected by such notice as of the Record Date for such notice; (iii) send by first-class, postage prepaid mail, copies of the notice as provided above to each Depository Participant identified in the securities position listing as holding a position in the Bonds as of the Record Date for the notice, to the Municipal Securities Rulemaking Board, and to any Person identified to the Trustee as a non-objecting Beneficial Owner (a non-objecting Beneficial Owner is a Person for whom a Depository Participant acts as nominee, and who has not objected to the disclosure of his or her name and security position) pursuant to the immediately following clause; (iv) request that the Depository Participant retransmit the notice to all Persons for which it served as nominee on the Record Date, including non-objecting Beneficial Owners, or retransmit the notice to objecting Beneficial Owners and provide a listing of non-objecting Beneficial Owners for whom the Depository Participant served as nominee on the Record Date to the Trustee and (v) provide as many copies of the notice as may be requested by any nominee owner of the Bonds. Any default in performance of the duties required by this paragraph shall not affect the sufficiency of notice to Owners given in accordance with the provisions of the General Resolution, nor
the validity of any action taken under the General Resolution in reliance on such notice to Owners.

407. **Further Authority.** The Chairman, Vice Chairman, President and Chief Executive Officer, Executive Vice President and Chief Financial Officer, Treasurer, Executive Vice President and Corporate Secretary, Deputy Corporate Secretary or Assistant Corporate Secretary of the Authority, or any Authorized Officer (as defined in the General Resolution) are each hereby authorized to execute and deliver to the Trustee appointed pursuant to the General Resolution such documents and certifications, including, without limitation, any Credit Facility or Liquidity Facility, as may be necessary to give effect to this Eleventh Supplemental Resolution and the transactions contemplated hereby.

408. **Effective Date.** This Eleventh Supplemental Resolution shall be fully effective in accordance with its terms upon the filing with the Trustee of a copy hereof certified by an Authorized Officer.
APPENDIX A

[FORM OF BONDS]

No. 2020[A][B] - ______ $________________

POWER AUTHORITY OF THE STATE OF NEW YORK

Revenue Bonds, Series 2020 [A][B]

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Maturity Date</th>
<th>CUSIP</th>
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<tbody>
<tr>
<td>Registered Owner: CEDE &amp; CO.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Amount: _______________________________ Dollars</td>
<td></td>
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</tbody>
</table>

POWER AUTHORITY OF THE STATE OF NEW YORK (herein called the “Authority”), a body corporate and politic, a political subdivision and a corporate municipal instrumentality of the State of New York, organized and existing under and by virtue of the laws of the State of New York, acknowledges itself indebted to, and for value received hereby promises to pay, but solely from the Trust Estate and not otherwise, to the registered owner specified above or registered assigns, the Principal Amount specified above on the Maturity Date specified above (subject to the right of prior redemption hereinafter mentioned) in any coin or currency of the United States of America which at the time of payment is legal tender for the payment of public and private debts, and to pay to the registered owner hereof interest on such principal sum in like coin or currency and at the rate of interest per annum specified above. This Bond is dated as of ________, 20__, interest on this Bond shall be payable from the_____ or _______ next preceding the date of authentication to which interest shall have been paid, unless such date of authentication is a _______ or _______, in which case from such date if interest has been paid to such date; provided, however, that such interest shall be payable on this Bond from ______, 20__, if the date of authentication is prior to the first interest payment date therefor. Interest on this Bond shall be payable on ______, 20__ and semi-annually thereafter on ______ and ______, in each case to the registered owner as of the close of business on the first day (whether or not a Business Day) of the calendar month in which the interest payment date occurs, such interest to be paid by the Trustee by check mailed to the registered owner at his address as it appears on the books of registry; provided, however, that upon redemption of this Bond, the accrued interest payable upon redemption shall be payable at the Principal Office of the Trustee upon presentation and surrender of this Bond, unless the redemption date is an interest payment date, in which event the interest on this Bond so redeemed shall be paid by the Trustee by check mailed to the registered owner at his address as it appears on the books of registry.
This Bond is one of a duly authorized issue of obligations of the Authority designated as its “Obligations” issued and to be issued in various series under and pursuant to the Power Authority Act, Title 1 of Article 5 of the Public Authorities Law, Chapter 43-A of the Consolidated Laws of the State of New York, as amended (herein called the “Act”), and under and pursuant to a resolution of the Authority adopted on February 24, 1998, entitled “General Resolution Authorizing Revenue Obligations”, and a supplemental resolution of the Authority adopted on November 7, 2020, as amended and restated on March 31, 2020, and entitled “Eleventh Supplemental Resolution Authorizing Revenue Bonds” (herein called the “Eleventh Supplemental Resolution”). Said resolutions are herein collectively called the “Resolution”. Capitalized terms used herein and not otherwise defined herein shall have the meanings provided in the Resolution.

This Bond is one of a series of Obligations of various maturities designated as “Revenue Bonds, Series 2020 [A][B][C][D]” (herein called the “Bonds”) issued in the aggregate principal amount of $__________ under the Resolution. Copies of the Resolution are on file at the office of the Authority and at the Principal Office of The Bank of New York Mellon, as Trustee under the Resolution, or its successor as Trustee (herein called the “Trustee”), in the Borough of Manhattan, City and State of New York. The Trustee is also the Registrar and Paying Agent for the Bonds.

The Obligations are payable as to principal, Redemption Price, and interest solely from and are equally and ratably secured solely by the Trust Estate, subject to the provisions of the Resolution permitting the application of such Trust Estate to the purposes and on the terms and conditions set forth in the Resolution, including, without limitation, the prior application of Revenues to the payment of Operating Expenses. The principal and Redemption Price of, and interest on, the Obligations shall not be payable from the general funds of the Authority nor shall the Obligations constitute a legal or equitable pledge, charge, lien, or encumbrance upon any of the property or upon any of the income, receipts, or revenues of the Authority, except the Trust Estate.

Reference is hereby made to the Resolution, copies of which are on file in the Principal Office of the Trustee, and to all of the provisions of which any holder of this Bond by his acceptance hereof hereby assents, for definitions of terms; the description of and the nature and extent of the pledge and covenants securing the Obligations, including this Bond; the Revenues and other moneys and securities constituting the Trust Estate pledged to the payment of the principal of and interest on the Obligations issued thereunder; the nature and extent and manner of enforcement of the pledge; the conditions upon which Obligations may hereafter be issued thereunder, payable on a parity from the Trust Estate and equally and ratably secured therewith; the conditions upon which the Resolution may be amended or supplemented with or without the consent of the Owners of the Obligations; the rights and remedies of the Owner hereof with respect hereto and thereto, including the limitations therein contained upon the right of an Owner hereof to institute any suit, action or proceeding in equity or at law with respect hereto and thereto; the rights, duties and obligations of the Authority and the Trustee thereunder; the terms and provisions
upon which the pledges and covenants made therein may be discharged at or prior to the maturity or redemption of this Bond, and the Bond thereafter no longer be secured by the Resolution or be deemed to be Outstanding thereunder, if moneys or certain specified securities shall have been deposited with the Trustee sufficient and held in trust solely for the payment hereof; and for the other terms and provisions thereof.

As provided in the Resolution, Obligations may be issued from time to time pursuant to supplemental resolutions in one or more series, in various principal amounts, may mature at different times, may bear interest at different rates and may otherwise vary as in the Resolution provided. The aggregate principal amount of Obligations which may be issued under the Resolution is not limited except as provided in the Resolution, and all Obligations issued and to be issued under the Resolution are and will be equally secured by the pledge and covenants made therein, except as otherwise expressly provided or permitted in the Resolution.

To the extent and in the manner permitted by the terms of the Resolution, the provisions of the Resolution or any resolution amendatory thereof or supplemental thereto may be modified or amended by the Authority, with the written consent of the Owners of a majority in principal amount of the Obligations then Outstanding, and, in case less than all of the Obligations will be affected thereby, with such consent of the Owners of at least a majority in principal amount of the Obligations so affected then Outstanding, at the time such consent is given; provided, however, that if such modification or amendment will, by its terms, not take effect so long as particular Obligations remain Outstanding, the consent of the Owners of such Obligations shall not be required and such Obligations shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Obligations under the Resolution.

This Bond is transferable, as provided in the Resolution, only upon the books of the Authority kept for that purpose at the above-mentioned office of the Registrar by the Owner hereof in person, or by his attorney duly authorized in writing, upon surrender of the Bond together with a written instrument of transfer satisfactory to the Registrar duly executed by the Owner or his duly authorized attorney, and thereupon a new registered Bond or Bonds, and in the same aggregate principal amount, Series, maturity and interest rate shall be issued in exchange therefor as provided in the Resolution, and upon payment of the charges therein prescribed. The Authority and each Fiduciary may deem and treat the Person in whose name this Bond is registered as the absolute owner hereof for the purpose of receiving payment of, or on account of, the principal or Redemption Price hereof and interest due hereon and for all other purposes, and all such payments so made to any such registered owner or upon his order shall be valid and effectual to satisfy and discharge the liability upon such Bond to the extent of the sum or sums so paid, and neither the Authority nor any Fiduciary shall be affected by any notice to the contrary.

[Description of the applicable redemption provisions, as specified in the applicable Certificate of Determination, to be inserted here.]

When the Trustee shall receive notice from the Authority of its election to redeem Obligations pursuant to the Resolution, and when redemption of Obligations is required by the
Resolution, the Trustee shall give notice, in the name of the Authority, of the redemption of such Obligations, which notice shall specify the Series, maturities and, if any maturity shall include Obligations bearing different interest rates and all Obligations of such maturity are not being redeemed, interest rate of the Obligations to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if less than all of the Obligations of any like Series, maturity and interest rate are to be redeemed, the letters and numbers or other distinguishing marks of such Obligations so to be redeemed, and, in the case of Obligations to be redeemed in part only, such notice shall also specify the respective portions of the principal amount thereof to be redeemed, and, if applicable, that such notice is conditional and the conditions that must be satisfied. Such notice shall further state that on such date there shall become due and payable upon each Obligation to be redeemed the Redemption Price thereof, or the Redemption Price of the specified portions of the principal thereof in the case of Obligations to be redeemed in part only, together with interest accrued to the redemption date, and that from and after such date interest thereon shall cease to accrue and be payable. Such notice shall be given by first class mail, postage prepaid, not less than 30 days nor more than 45 days before the redemption date, to the Owners of any Obligations or portions of Obligations which are to be redeemed, at their last addresses, if any, appearing upon the registry books. Failure so to mail any such notice to any particular Owner shall not affect the validity of the proceedings for the redemption of Obligations not owned by such Owner and failure of any Owner to receive such notice shall not affect the validity of the proposed redemption of Obligations.

Any notice of optional redemption may state that it is conditional upon receipt by the Trustee of moneys sufficient to pay the Redemption Price of such Obligations or upon the satisfaction of any other condition, or that it may be rescinded upon the occurrence of any other event, and any conditional notice so given may be rescinded at any time before payment of such Redemption Price if any such condition so specified is not satisfied or if any such other event occurs. Notice of such rescission shall be given by the Trustee to affected Owners of Obligations as promptly as practicable upon the failure of such condition or the occurrence of such other event.

The principal of the Bonds may be declared due and payable before the maturity thereof, and such declaration may be annulled, as provided in the Resolution.

The Act provides that neither the members of the Authority nor any person executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof.

Pursuant to Section 1011 of the Act, the Authority, as agent for the State of New York, does hereby pledge to and agree with the holder of this Bond that the State of New York will not limit or alter the rights vested in the Authority by the Act, as amended, until this Bond and each of the other Bonds, together with the interest hereon and thereon, have been fully met and discharged or adequate provisions have been made by law for protection of the holders of all such Bonds.

The Bonds shall not be a debt of the State of New York, and the State shall not be liable thereon.
It is hereby certified and recited that all conditions, acts and things required by law and the
Resolution to exist, to have happened and to have been performed precedent to and in the issuance
of this Bond, exist, have happened and have been performed and that the issuance of the Bonds,
together with all other indebtedness of the Authority, is within every debt and other limit prescribed
by the laws of the State of New York.

This Bond shall not be entitled to any benefit under the Resolution or be valid or become
obligatory for any purpose until this Bond shall have been authenticated by the execution by the
Trustee of the Trustee’s Certificate hereon.

IN WITNESS WHEREOF, POWER AUTHORITY OF THE STATE OF NEW
YORK has caused this Bond to be signed in its name and on its behalf by the facsimile signature
of its [INSERT TITLE], and its corporate seal (or facsimile thereof) to be hereunto affixed,
imprinted, engraved or otherwise reproduced and attested by the facsimile signature of its Vice
President and Corporate Secretary, a Deputy Corporate Secretary, or an Assistant Secretary.

POWER AUTHORITY OF THE
STATE OF NEW YORK

By: _____________________________________
[President and Chief Executive Officer]

[SEAL]

Attest:

_________________________
Secretary
[FORM OF CERTIFICATE OF AUTHENTICATION FOR BONDS]

AUTHENTICATION DATE:

Trustee’s Certificate

The Bond is one of the bonds, of the Series designated therein, described in the within-mentioned Resolution.

THE BANK OF NEW YORK MELLON
Trustee

By: ________________________________
Authorized Officer
FORM OF ASSIGNMENT

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

______________________________________________________________________________

(Please insert Social Security or Taxpayer Identification Number of Transferee)

______________________________________________________________________________

(Please print or typewrite name and address, including zip code of Transferee)

______________________________________________________________________________

the within Bond and all rights thereunder, and hereby irrevocably constitutes and appoints

______________________________________________________________________________

attorney to register the transfer of the within Bond on the books kept for registration thereof, with full power of substitution in the premises.

Dated: ______________

Signature Guaranteed:

NOTICE: Signature(s) must be guaranteed by a member or participant of a signature guarantee program.

NOTICE: The signature above must correspond with the name of the Owner as it appears upon the front of this Bond in every particular, without alteration or enlargement or change whatsoever.
STATEMENT OF INSURANCE [if any]

_________________________________ New York, New York, has delivered its municipal bond insurance policy (the “Policy”) with respect to the scheduled payments due of principal of and interest, including principal and interest due by operation of scheduled mandatory sinking fund redemption, on this Bond to The Bank of New York Mellon, New York, New York, or its successor, as paying agent for the Bonds (the “Paying Agent”). Said Policy is on file and available for inspection at the principal office of the Paying Agent and a copy thereof may be obtained from ___________ or the Paying Agent.
Date: March 23, 2020

To: THE FINANCE COMMITTEE

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: Selection of Firms to Service as Authority Underwriters

SUMMARY

The Finance Committee is requested to recommend that the Trustees approve the appointment for a period of five years of a prequalified pool of Senior Managers, Co-Managers and Selling Group members to originate, underwrite and sell the Authority's debt obligations and provide other services as requested.

BACKGROUND

The Authority’s 2020 Approved Budget and Financial Plan includes approximately $894.4 million in expenditures for Power Generation, Transmission, Canal Corporation, Energy Solutions and IT improvements which will be funded using a combination of existing construction funds, internally generated funds, and proceeds from the sale of debt obligations (“debt”) in the capital markets. Opportunities also exist to refund a certain series of the Authority's Revenue Bonds (2011A) beginning on their first call date of November 15, 2021. It is expected that a bond refinancing could provide net present value savings.

To be able to enter the capital markets as conditions and needs arise, the Authority issued a Request for Qualifications (RFQ) (Q 19-6846RM) to pre-qualify firms to assist in originating, underwriting and selling the Authority's debt and provide other services as requested.

DISCUSSION

The Authority recently issued an RFQ for firms interested in providing underwriting services for Authority debt issuances. The RFQ was widely advertised including on the Authority’s website and in the New York State Contract Reporter. Banks, brokers and dealers that have expressed an interest in providing such services to the Authority were invited to respond to the RFQ. In consideration of the recommendations of a State Task Force established to increase the use of Minority and Women-Owned Business Enterprise (“MWBE”) underwriters, firms certified with the New York State Department of Economic Development were also invited to respond to the RFQ. Of those firms responding to the RFQ, nine held MWBE designations, two held dual designations of MWBE and Service-disabled Veteran Owned Business (SDVOB”) or Disabled Veteran Business Enterprises (“DVBE”) and four were SDVOB or DVBE.
The Authority’s evaluation of responses took into consideration several qualitative characteristics essential for a successful underwriting team. Specifically, responses were evaluated for firm experience in structuring, underwriting and selling green, tax-exempt and taxable bond and note issues; knowledge of the Authority, its business markets and the public power industry; the ability and demonstrated willingness to underwrite bonds; financial strength and capital position, including excess net capital allocated to public finance; distribution capability in the retail and institutional sectors; diversity and commitment to equal employment opportunities; analysis of CRA ratings where applicable; and value-added services and financing proposals aimed at cost savings or debt structuring.

Based on staff’s evaluation, the following firms exhibited the qualifications that would make them suited to serve in a Senior or Co-Senior underwriting capacity. Based on their combined experience and distribution capabilities, staff believes the team will be able to market the Authority’s debt at the lowest possible interest cost with wide investor participation.

**Senior Managers**

- Bank of America
- Citigroup
- Goldman, Sachs & Co.
- Ramirez & Co., Inc.
- Siebert Williams Shank

In addition to the selection of Senior Managers, the following firms are being recommended to serve as Co-Managers and Selling Group Members based on their qualifications to distribute and/or underwrite bonds:

**Co-Managers**

- Academy Securities
- Estrada & Honojosa
- FHN Financial
- Jeffries LLC
- JP Morgan Securities LLC
- Loop Capital Markets LLC
- Piper Sandler & Co.
- Wells Fargo Bank, N.A.
Selling Group Members

- AmeriVet Securities
- American Veterans Group
- Bancroft Capital
- Drexel Hamilton
- Great Pacific Securities
- Mischler Financial Group
- Roberts & Ryan Investments
- Rockfleet Financial

Overall, 43% of the firms selected are MWBEs or hold dual designations while an additional 19% are SDVOBs/DVBEs.

Firm assignments for Senior Manager(s), Co-Manager(s) and Selling Group members from the prequalified pool will be established at the time of each financing transaction subject to selection by the Chief Executive Officer or Chief Financial Officer. Firms serving as Co-Managers or Selling Group members may be considered for an elevated position within the pool based on exemplary service to the Authority or value-added structuring proposals.

**FISCAL INFORMATION**

There is no fiscal impact associated with this action.

**RECOMMENDATION**

The Executive Vice President and Chief Financial Officer recommends that the Finance Committee recommend that the Trustees approve the appointment of the firms named in this memorandum for a period of five years to serve as a prequalified pool of Senior Managers, Co-Managers and Selling Group members to originate, underwrite and sell the Authority’s debt obligations and provide other services upon request.

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

Gil C. Quiniones  
President and Chief Executive Officer
RESOLUTION

RESOLVED, That the Finance Committee recommends that the Trustees approve the appointment of the firms listed below for a period of five years to serve as a prequalified pool of Senior Managers, Co-Managers and Selling Group members to originate, underwrite and sell the Authority’s debt obligations and provide other services as requested, with firm assignments from the prequalified pool to be established at the time of each financing transaction subject to selection by the Chief Executive Officer or Chief Financial Officer:

Senior Managers

• Bank of America
• Citigroup
• Goldman, Sachs & Co.
• Ramirez & Co., Inc.
• Siebert Williams Shank

Co-Managers

• Academy Securities
• Estrada & Honojosa
• FHN Financial
• Jeffries LLC
• JP Morgan Securities LLC
• Loop Capital Markets LLC
• Piper Sandler & Co.
• Wells Fargo Bank, N.A.

Selling Group Members

• AmeriVet Securities
• American Veterans Group
• Bancroft Capital
• Drexel Hamilton
• Great Pacific Securities
• Mischler Financial Group
• Roberts & Ryan Investments
• Rockfleet Financial
Date: March 23, 2020

To: THE FINANCE COMMITTEE

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: Update on 2019 Financial Reports Pursuant to Section 2800 of the Public Authorities Law and Regulations of the Office of the State Comptroller

ORAL PRESENTATION
Date: March 23, 2020

To: THE FINANCE COMMITTEE

From: THE PRESIDENT and CHIEF EXECUTIVE OFFICER

Subject: Release of Funds in Support of the New York State Canal Corporation

SUMMARY

The Trustees will be requested at their March 31, 2020 meeting to authorize the release of an additional up to $22.8 million in funding to the New York State Canal Corporation (“Canal Corporation”) to support the operations of the Canal Corporation in calendar year 2020. The amount requested is 25% of the Canal Corporation’s 2020 O&M Budget. The Trustees have previously authorized the release of $22.8 million to support the operations of the Canal Corporation for calendar year 2020.

The Finance Committee is requested to recommend to the Trustees the release of this additional funding.

BACKGROUND

The Authority has been authorized to provide financial support for the Canal Corporation. See, e.g., Public Authorities Law § 1005-b(2). However, certain expenditures associated therewith do not constitute Capital Costs or Operating Expenses (‘Operating Expenses’) as defined in the Authority’s General Resolution Authorizing Revenue Obligations dated February 24, 1998, as amended and supplemented (‘Bond Resolution’). Expenditures for the Canal Corporation’s operating purposes that do not constitute Capital Costs or Operating Expenses must satisfy the requirements of the Authority’s Bond Resolution relating to the release of funds from the trust estate created by the Bond Resolution for lawful corporate purposes. In addition, as set forth in the Trustees’ Policy Statement dated May 24, 2011, a debt service coverage ratio of 2.0 is to be used as a reference point in considering any such release of funds.

The Bond Resolution permits the Authority to withdraw monies ‘free and clear of the lien and pledge created by the [Bond] Resolution’ provided that (a) such withdrawals must be for a ‘lawful corporate purpose as determined by the Authority,’ and (b) the Authority must determine, taking into account among other considerations anticipated future receipt of revenues or other moneys constituting part of the Trust Estate, that the funds to be so withdrawn are not needed for (i) payment of reasonable and necessary operating expenses, (ii) an Operating Fund reserve in amounts determined by the Authority to be adequate for working capital, emergency repairs or replacements, major renewals or for retirement from service, decommissioning or disposal of facilities, (iii) payment of, or accumulation of a reserve for payment of, interest and principal on senior debt or (iv) payment of interest and principal on subordinate debt.

Under the Bond Resolution, Capital Costs (which includes capital costs related to the Canal Corporation) may be paid without satisfying the provision described above.
DISCUSSION

With this authorization, the Trustees will have authorized the release of a cumulative $45.6 million, an amount equal to 50% of the Canal Corporation’s 2020 O&M Budget. With regard to Canal Corporation’s operating expenses in excess of $45.6 million in calendar year 2020, staff is not requesting any action at this time, but will return to the Board to request additional releases as needed.

Staff has reviewed the effect of releasing up to an additional $22.8 million in funding at this time on the Authority’s expected financial position and reserve requirements. In accordance with the Board’s Policy Statement adopted May 24, 2011, staff calculated the impact of this release, together with the last 12 months releases including (i) the release of $30 million in Recharge New York Discounts for 2020, (ii) the release of up to $45.6 million in Canal-related operating expenses for 2020 ($22.8 million of which was authorized in December 2019 and $22.8 million of which the Trustees are being asked to authorize at this March 2020 meeting), (iii) the release of up to $2 million in Western NY Power Proceeds net earnings, and (iv) the release of up to $1 million in Northern NY Power proceeds net earnings, on the Authority’s debt service coverage and determined it would not fall below the 2.0 reference level. Based on the Authority’s Four-Year Budget and Financial Plan, the 2.0 reference point level is forecasted to be met at each year-end of the forecast period 2020-2023. Given the current financial condition of the Authority, its estimated future revenues, operating expenses, debt service and reserve requirements, staff is of the view that it will be feasible for the Authority to release such amounts from the trust estate created by the Bond Resolution consistent with the terms thereof.

FISCAL INFORMATION

Staff has determined that sufficient funds are available in the Operating Fund to release an additional up to $22.8 million in funding to support the operation of the Canal Corporation in calendar year 2020. Staff has further determined that the amounts presently held in reserves in the Operating Fund are adequate for the purposes specified in Section 503.2 of the Authority’s Bond Resolution and that such Authority funds are not needed for any of the purposes specified in Section 503(1)(a)-(c) of the Authority’s Bond Resolution.

The expenses associated with the operations of the Canal Corporation for calendar year 2020 were included in the Canal Corporation’s 2020 O&M Budget and the Authority’s 2020 Budget.

RECOMMENDATION

The Chief Financial Officer requests that the Finance Committee recommend that the Trustees authorize the release of an additional up to $22.8 million in funding to the Canal Corporation to support the operations of the Canal Corporation in calendar year 2020. The Chief Financial Officer further recommends that the Finance Committee recommend the Trustees affirm that such release is feasible and advisable, that the amounts presently set aside as reserves in the Operating Fund are adequate for the purposes specified in Section 503.2 of the Authority’s Bond Resolution, and that the amount of up to $22.8 million is not needed for any of the purposes specified in Section 503(1)(a)-(c) of the Authority’s Bond Resolution.

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
RESOLVED, That the Finance Committee recommends that the Trustees authorize
the release of an additional up to $22.8 million in funding to the Canal Corporation to
support operations of the Canal Corporation in calendar year 2020, as discussed in the
foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That the Finance Committee recommends that the Trustee affirm that
the amounts presently set aside as reserves in the Operating Fund are adequate for the
purposes specified in Section 503.2 of the Authority’s Bond Resolution, that the amount of
up to $22.8 million in funding as described in the foregoing report is not needed for any of
the purposes specified in Section 503(1)(a)-(c) of the Authority’s General Resolution
Authorizing Revenue Obligations, as amended and supplemented, and that the release of
such amount is feasible and advisable; and be it further

RESOLVED, That the Finance Committee recommends that the Trustee affirm that
as a condition to making the payments specified in the foregoing report, on the day of such
payments, the Treasurer shall certify that such monies are not then needed for any of the
purposes specified in Section 503(1)(a)-(c) of the Authority’s General Resolution
Authorizing Revenue Obligations, as amended and supplemented; and be it further

RESOLVED, That the Finance Committee recommends that the Trustee affirm that
the Chairman, the Vice Chairman, the President and Chief Executive Officer, the Chief
Operating Officer, the Executive Vice President and General Counsel, the Executive Vice
President and Chief Financial Officer, the Corporate Secretary, the Treasurer and all other
officers of the Authority be, and each of them hereby is, authorized and directed, for and in
the name and on behalf of the Authority, to do any and all things and take any and all
actions and execute and deliver any and all certificates, agreements and other documents
that they, or any of them, may deem necessary or advisable to effectuate the foregoing
resolution, subject to approval as to the form thereof by the Executive Vice President and General Counsel.
# MINUTES OF THE JOINT MEETING OF THE FINANCE COMMITTEE
November 19, 2019

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Minutes of the joint meeting of the New York Power Authority and Canal Corporation’s Finance Committee held at the Clarence D. Rappleyea Building, 123 Main Street, White Plains, New York at approximately 9:47 a.m.

Members of the Finance Committee present were:

Tracy B. McKibben - Chair
John R. Koelmel
Dennis Trainor

Michael Balboni - Excused

Also in attendance were:

Eugene L. Nicandri        Vice Chairman - NYPA
Gil Quiniones             President and Chief Executive Officer
Justin Driscoll           Executive Vice President and General Counsel
Adam Barsky               Executive Vice President and Chief Financial Officer
Joseph Kessler            Executive Vice President and Chief Operations Officer
Kristine Pizzo            Executive Vice President and Chief Human Resources & Administrative Officer
Sarah Salati              Executive Vice President and Chief Commercial Officer
Robert Piascik            Senior Vice President and Chief Information Officer
Lee Garza                 Senior Vice President – Financial Operations
Yves Noel                 Senior Vice President – Strategy and Corporate Development
Karen Delince             Vice President and Corporate Secretary
Daniella Piper            Vice President – Digital Transformation / Chief of Staff
Joseph Leary              Vice President – Community and Government Relations
Patricia Lombardi         Vice President – Project Manager
Doug McMahon              Vice President – Head of e-Mobility & Grid Flexibility
Anne Reasoner             Vice President – Budgets & Business Controls
Scott Tetenman            Vice President – Finance
Thakur Sundeep            Controller
Mary Cahill               Manager – Executive Office
Lorna Johnson             Senior Associate Corporate Secretary
Sheila Quatrocci          Associate Corporate Secretary
Michele Stockwell         Project Coordinator – Executive Office
Lori DeMichele            Board Travel Specialist

Chairperson Tracy McKibben presided over the meeting. Corporate Secretary Delince kept the Minutes.
Introduction

Chairperson Tracy McKibben welcomed committee members and the Authority’s senior staff to the meeting. She said that the meeting had been duly noticed as required by the Open Meetings Law and called the meeting to order pursuant to Section B(4) of the Finance Committee Charter.
1. **Adoption of the November 19, 2019 Proposed Meeting Agenda**

On motion made by member John Koelmel and seconded by member Dennis Trainor the agenda for the meeting was adopted.
2. **Motion to Conduct an Executive Session**

*I move that the Finance Committee conduct an executive session to discuss the financial and credit history of a particular corporation pursuant to §105f of the Public Officers Law.* On motion made by member Dennis Trainor and seconded by member John Koelmel an Executive Session was held.
3. **Motion to Resume the Meeting in Open Session**

In move to resume the meeting in Open Session. On motion made by member Dennis Trainor and seconded by member John Koelmel, the meeting resumed in Open Session.

Chairperson McKibben said no votes were taken during the Executive Session.
4. CONSENT AGENDA

On motion made by member John Koelmel and seconded by member Dennis Trainor, the Consent Agenda, which comprised the following meeting minutes, was unanimously approved.

a. Approval of the Joint Regular Meeting Minutes held on May 21, 2019
b. Approval of the Joint Special Meeting Minutes held on July 16, 2019
c. Approval of the Joint Special Meeting Minutes held on September 25, 2019
5. DISCUSSION AGENDA:


Ms. Sarah Salati provided an update on the Authority’s Energy Efficiency & Customer-sited Renewables Business Line Operating Plan (Exhibit 5a-A).

NYPA’s Energy Efficiency Program

In addition to the governor’s policies for energy efficiency, NYPA has very strong goals for energy efficiency that have been set out by the Climate Leadership and Community Protection Act.

The Authority have authorized funding of more than $3 billion to support the financing and implementation of energy efficiency projects over the last two decades. These energy efficiency projects support the Authority’s customers in reducing energy consumption, which results in financial savings. Additionally, it supports the reduction in greenhouse gas emissions, one of the Authority’s overarching policy goals.

The projects are funded by NYPA providing financing during the construction process. These funds are recoverable to NYPA. The customers can either pay back with a lump-sum payment for the financing of those projects or enter into long-term financing agreements. NYPA charges an administration or project management fee to cover the cost of the project and engineers that are overseeing a large portfolio of projects every year.

The Energy efficiency pipeline has grown substantially based on strong customer demands. The value of projects being implemented have increased over time, typically between $300 and $400 million of capital projects annually.

In order for NYPA to undertake these projects, authorization from the Board is required to dedicate funds towards these programs, the implementation of the energy efficiency projects, as well as approval for implementation or general contractors to implement the projects. Specifically, the contracts with NYPA’s implementation or general contractors are about to expire; therefore, it is important for the Authority to have these contracts in place in order to move forward with the program.

Program Funding Summary

Since 2015, the last time the Trustees approved funding for these programs, and based on the expenditures and open Purchase Orders, the remaining authorization for these projects is $830 million.

Based on the portfolio and the energy efficiency pipeline that has grown substantially, the five-year forecast for energy efficiency projects is about $1.67 billion, in addition to the run rate that NYPA is expending for its projects annually.

To this end, staff will be requesting that the Finance Committee recommend the Board’s approval of $1.5 billion to be spent towards financing the forecasted spend needed to help meet customer demand for projects over the next five to seven years, as well as the increased policy goals and laws set out by the state.
I. Energy Efficiency Program – Authorization to Expand Program
Funding and Award Services Contracts to Support the Program

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their December 11, 2019 meeting to approve additional funding in the amount of $1.5 billion, in aggregate, for both Governmental Customer Energy Efficiency Program (‘GCEEP’) and Statewide Energy Efficiency Program (‘Statewide EEP’) to support additional future energy efficiency projects for eligible program participants across New York State (‘NYS’). The increased funding would be in addition to the $2.73 billion and $1.15 billion previously approved by the Trustees for the GCEEP and Statewide EEP, respectively. These funds will bring the GCEEP to $3.48 billion and Statewide EEP to $1.9 billion. For the avoidance of doubt, this is not a request for approval for additional financial funding. The Trustees previously approved a request for additional financial funding in support of the Authority’s Customer Energy Efficiency Programs at their September 25, 2019 meeting.

The Trustees will also be requested to authorize the award of contracts (as described below) to nineteen firms to provide energy audit, design, engineering, procurement, construction management, installation, design build, and energy performance contracting services. The aggregate total for all nineteen contracts is $1.5 billion. The term of each contract will be seven years. These nineteen contracts will be used to support both GCEEP and Statewide EEP, and funding of these contracts will be allocated from the aforementioned $3.48 billion GCEEP and $1.9 billion Statewide EEP. These funds will generally be recovered directly from program participants except for certain types of grants.

The Finance Committee is requested to recommend to the Trustees the approval of the additional funding in the amount of $1.5 billion, in the aggregate, for both GCEEP and Statewide EEP. The Finance Committee is also requested to recommend to the Trustees the authorization of the nineteen (19) contract awards in the aggregate amount of $1.5 billion for a term of seven years to the firms named in this report.

BACKGROUND

Section 2879 of the Public Authorities Law and the Authority’s Guidelines for Procurement Contracts require the Trustee approval of procurement contracts involving services to be rendered for a period in excess of one year. In accordance with the Authority’s Expenditure Authorization Procedures, the award of non-personnel services or equipment contracts in excess of $3 million require the Trustee approval.

In June 2005, the Trustees approved initial funding of $500 million under the GCEEP to support energy projects for the Authority’s governmental customers located in New York City and Westchester County. Subsequent requests for funding were approved in an aggregate amount of $2.23 billion to support projects under the GCEEP for a total of $2.73 billion. In addition, in December 1997, the Trustees approved initial funding of $30 million under the Statewide EEP to support energy projects for program participants throughout New York State, not including New York City and Westchester County governmental customers. Subsequent requests for funding were approved in an aggregate amount of $1.12 billion to support projects under the Statewide EEP for a total of $1.15 billion.

Both Governor Cuomo and the Mayor of the City of New York have identified reduced energy use, sustainability, and efficient operation of public facilities as one of the top priorities of their respective administrations. The Authority supports its customers statewide in meeting these goals and initiatives with the GCEEP and Statewide EEP.
DISCUSSION

On May 4 and May 11 of 2018, the Authority held supplier days at the Authority’s White Plains Office (‘WPO’) to provide details about the Lean Supply Chain Model program. As part of this program, the Authority engaged suppliers that provide an array of products and services that would support multiple business lines across the Authority. Qualified suppliers would be invited to participate in future request for proposals.

On May 11, 2018, the Authority advertised in the New York State Contract Reporter a Request for Qualification (‘RFQ’) (Q18-6448DK) soliciting company profile, qualifications, fiscal information, and references. A total of 167 suppliers expressed interest in the RFQ. On June 24, 2018, fifty-seven (57) suppliers submitted detailed responses.

A cross-departmental evaluation team was formed to evaluate the proposals. In December 2018, the Authority informed the 57 suppliers that they were deemed qualified to provide one or more services outlined in the RFQ and would be notified of future RFP’s that aligned with the supplier’s qualifications. Based on a combination of supplier capabilities and interests, the 57 suppliers from the RFQ were down-selected to 36 suppliers.

The Authority identified that there was a need to expand its supplier base to support the Energy Efficiency Program. The Energy Efficiency Program provides energy efficiency and renewable energy services to customers meeting the eligibility criteria under the Public Authorities Law, Section 1005. Energy efficiency services provided through the Energy Efficiency Program include investment grade audits (‘IGA’), design, engineering, and installation services related to a wide variety of energy technologies and renewables.

On January 29, 2019, the Authority held a pre-bid conference at WPO to inform suppliers of the upcoming Request for Proposal (‘RFP’) seeking suppliers interested in providing an array of services in support of the Energy Efficiency Program statewide. Previously qualified firms attended the pre-bid conference. On February 4, 2019, the Authority issued an RFP (Q19-6616KS-I) to thirty-six (36) of the 57 previously qualified suppliers. Bidders had the options to provide proposals for a combination of services within regions in New York State. The services and regions are listed below:

Services:

- **Option A:** Audit Services
- **Option B:** Retro-Commissioning Services
- **Option C:** Design/Engineering (Small to Medium Facilities)
  - Design/Engineering (Large Facilities)
  - Design/Engineering (Clean Water/Wastewater processes)
- **Option D:** Construction Management (Small to Medium Facilities)
  - Construction Management (Large Facilities)
  - Construction Management (Clean Waste / Water Water Projects)
- **Option E:** Construction Trade Management
- **Option F:** Turnkey (Small to Medium Facilities)
  - Turnkey (Large Facilities)
  - Turnkey (Clean Waste / Water Water Projects)
Option G: Design Build/ ESPC Services
Option H: Additional Services

Regions:
- Region 1 includes New York City
- Region 2 includes Westchester, Nassau, Suffolk, Rockland, Putnam, Dutchess, Orange, Sullivan, and Ulster Counties.
- Region 3 includes counties north of Region 2, east of Oswego, Onondaga, Cortland, and Broome Counties, excluding Oswego, Onondaga, Cortland and Broome Counties.
- Region 4 includes Oswego, Onondaga, Cortland and Broome Counties and all counties west of these four counties.

On February 20, 2019, a second bidders’ conference was held at WPO to provide information regarding pricing structure. Nineteen (19) firms attended the second conference. Six (6) addendums were issued.

On March 21, 2019, twenty-three (23) of the 36 qualified firms submitted proposals for one or more of the aforementioned options. Of the remaining 13 firms, six (6) suppliers declined to bid, while seven (7) suppliers did not submit proposals.

Commercial evaluations of all bids were conducted by Strategic Supply Management to ensure the firms’ financial viability and determine if any exceptions requested were acceptable. Minority/Women-owned Business Enterprises (‘M/WBE’) commitments for all suppliers are 15% each for regions 1 and 2, and 10% each for regions 3 and 4. Service-Disabled Veteran-Owned Business (‘SDVOB’) commitments for all suppliers are 6% for regions 1 and 2, and 3% for regions 3 and 4.


Throughout the evaluation process, multiple rounds of pricing negotiations were held with suppliers that allowed for a reduction in overall pricing by approximately six percent (6%).

FISCAL INFORMATION

The additional funding will be provided from the Authority’s Operating Fund monies transferred from time to time to the Capital Fund and/or from the proceeds of the Authority’s Commercial Paper Notes (as such terms are used in the Authority’s General Resolution Authorizing Revenue Obligations dated February 24, 1998, as amended and supplemented (‘Bond Resolution’)) or other financing instruments, as deemed applicable. In addition, projects may be funded, in part, with monies from Petroleum Overcharge Restitution (‘POCR’) funds. Funding will be allocated as projects are assigned based on each firm’s performance and workload, subject to the Approval Limits for Execution of Commitments in the Authority’s Expenditure Authorization Procedures. All Authority costs, including Authority overheads and the costs of advancing funds, but excluding the POCR and certain types of grants, will be recovered.
RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve $1.5 billion in additional funding for Governmental Customer Energy Efficiency Program (‘GCEEP’) and Statewide Energy Efficiency Program (‘Statewide EEP’). It is also requested that the Finance Committee recommend that the Trustees approve nineteen (19) contract awards in the aggregate amount of $1.5 billion for a term of seven years to the following firms: AECOM USA, Inc., Arcadis of New York, Barile Gallagher Associates Consulting Engineers, Bette & Cring, LLC, CDM Constructors Inc., Dynamic Mechanical Contractors, Inc., Energy Systems Group, The Fulcrum Group, Guth DeConzo Consulting Engineers, Imperia Engineering Partners LLC, John W. Danforth Company, LaBella Associates Inc., LIRO Engineers, Macan Deve Engineers, Noresco, LLC, O’Brien & Gere Engineers Inc., Pres Energy Services, Wendel Energy Services LLC, and Willdan Energy Solutions.

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

Ms. Sarah Salati provided highlights of staff’s recommendation to the Committee.

On motion made by member John Koelmel and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees authorize the President and Chief Executive Officer, the Chief Operating Officer, Chief Commercial Officer, the Senior Vice President – Clean Energy Solutions, the Vice President – Engineering & Construction Management, the Vice President – Business Development, and or such officer designated by the President and Chief Executive Officer to execute agreements and other documents between the Authority, the Governmental Customers Energy Efficiency Program (“GCEEP”) and the Statewide Energy Efficiency Program (“Statewide EEP”) participants and to execute agreements and other documents with contractors, such agreements having such terms and conditions as the executing officer may approve, subject to the approval of the form thereof by the Executive President and General Counsel, to facilitate the implementation of the GCEEP and Statewide EEP that the authorized funding level for each program be increased by $750M respectively, as listed below:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously Authorized</td>
<td>$2.73 billion</td>
<td>$1.15 billion</td>
</tr>
<tr>
<td>Additional Funding</td>
<td>$750 million</td>
<td>$750 million</td>
</tr>
<tr>
<td>Total Amount Authorized</td>
<td>$3.48 billion</td>
<td>$1.9 billion</td>
</tr>
</tbody>
</table>

AND BE IT FURTHER RESOLVED, That the Finance Committee recommends that the Trustees, in accordance with the Guidelines for Procurement Contracts adopted by the Authority and the Authority’s Expenditure Authorization Procedures, authorize that an aggregate $1.5 billion be allocated
among the two programs, GCEEP and Statewide EEP, to perform services which include energy audits, design, engineering, procurement, construction management, installation, design build, and energy services performance contracting services:

<table>
<thead>
<tr>
<th>Commercial Paper Program/</th>
<th>Ceiling</th>
<th>Termination Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Fund/POCR</td>
<td>$1.5 billion</td>
<td>7-year term (on or about December 31, 2026)</td>
</tr>
</tbody>
</table>
b. Utility Operations Capital Expenditure Authorization Requests:

i. Moses-Adirondack Smart Path Reliability Project
   Capital Expenditure Authorization Request and
   Update on Contract Awards for Construction Services

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their December 11, 2019 meeting authorize capital expenditures in the amount of $341.2 million to complete the Moses – Adirondack Smart Path Reliability Project (‘Project’).

The total estimated Project cost is $483.8 million. From 2015 to 2018, the Trustees have previously approved capital expenditures in the amount of $142.6 million for this Project.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of $341.2 million to complete the Project. The Finance Committee is also being provided an update on the Request for Proposals from qualified suppliers to provide services for the reconstruction of the lines.

Background

In accordance with the Authority’s Capital Planning and Budgeting Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

The existing Moses-Adirondack 1&2 Lines (‘MA 1&2 Lines’) originate in the St. Lawrence Moses Substation in Massena, New York. From the Moses Substation, the lines generally traverse in a south and southwestern direction for approximately 86 miles, terminating in the Adirondack Substation in Croghan, New York. The MA 1&2 Lines are on double-circuit steel lattice structures for the first eight miles, and the remaining 78 miles are supported by single-circuit wooden H-frame structures. The two circuits were originally constructed by the United States Department of Defense in 1942 and acquired by the Authority in 1953. The portion of the lines supported by the wooden H-frame structures have reached the end of their useful life, require frequent maintenance, and are at risk for catastrophic failure.

The Project will replace the 78 miles of wooden transmission structures with new single-circuit monopole structures that can support 345kV transmission but will operate at 230kV until the full length of the transmission system is upgraded. The new structures will be located within the Authority’s existing right-of-way. Construction will be sequenced to minimize outages on the MA 1&2 Lines and the 765kV Massena Substation – Utica Line (‘765kV MSU Line’). Optical ground wire will also be installed along the entire transmission line over both circuits to facilitate the Authority’s Communications Backbone Program.

The Project was originally presented to the Trustees in 2015 for approval and subsequent Project scope change in 2017. At their October 2, 2018 meeting, the Trustees authorized additional capital expenditures to continue obtaining environmental permits, licensing certificates, final engineering work, Environmental Management & Construction Plan (‘EM & CP’) construction support services, and material procurement for the Project. In addition, several contract awards have been authorized by the Trustees in 2018 and 2019.

The Article VII Certificate for the Project was submitted on April 5, 2018 and is expected to be issued by the New York State Public Service Commission mid-November. The EM & CP will be submitted shortly after receipt of the Article VII Certificate. After the EM & CP permit is issued it is anticipated that construction will begin in March 2020. The Project is estimated to be in-service mid-2023.
DISCUSSION

Funding Authorization

This Project will provide a statewide reliability benefit in support of the New York Independent System Operator’s System Restoration Program (‘Blackstart’), access to renewable integration and low-cost generation, as well as a reduction in costs to consumers due to maintenance and unexpected outages on the MA 1&2 Lines.

The Finance Committee is requested to recommend the Trustees’ approval of the remaining expenditures for construction, material procurement, construction management support and Authority direct and indirect costs to continue the implementation of the Project. The procurement and contracting strategies were developed to mitigate risk and provide the most cost-effective solution to the Project. At this time, contracts and proposals have been issued or received for over 90% of the Project work. As contracts are finalized and permits are received, the Project team will work to remain within the $483.8 million estimate.

The remaining expenditures are estimated as follows:

<table>
<thead>
<tr>
<th>Total Estimated ($000)</th>
<th>Previously Authorized ($000)</th>
<th>Current Request ($000)</th>
<th>Balance to be Authorized ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Engineering/Licensing</td>
<td>$12,317.8</td>
<td>$12,281.7</td>
<td>($281.7)</td>
</tr>
<tr>
<td>Engineering and Design</td>
<td>$6,038.4</td>
<td>$5,697.9</td>
<td>($1,340.5)</td>
</tr>
<tr>
<td>Procurement/Constructions</td>
<td>$423,141.2</td>
<td>$113,595.2</td>
<td>$309,546.0</td>
</tr>
<tr>
<td>Authority Direct/Indirect</td>
<td>$42,302.7</td>
<td>$11,046.8</td>
<td>$31,255.9</td>
</tr>
<tr>
<td><strong>Total Authorization Requested</strong></td>
<td><strong>$483,800.1</strong></td>
<td><strong>$142,621.6</strong></td>
<td><strong>$341,178.5</strong></td>
</tr>
</tbody>
</table>

Construction Contractor RFQ, RFP and Contract Awards

A Request for Qualifications (‘RFQ’), No. Q18-6416MR, was issued on April 2, 2018 to solicit information from qualified companies, enabling the Authority to evaluate the capabilities and capacity of each company to support the Project. Results of the RFQ were six Qualified Suppliers, to which Requests for Proposals (‘RFP’) for specific Scopes-of-Work (‘SOW’) pertaining to the Project were issued.

As such, the Authority issued RFP No. Q18-6544MR, on September 29, 2018 to the six Qualified Suppliers, all of whom are listed to have viewed and responded to the Ariba event. The RFP requirements included, but not limited to, the bidder’s plans to engineer and execute the civil, foundation and structure works; furnishing of all supervision, labor, materials and/or equipment; and perform all operations required for safe and environmentally compliant demolition, reconstruction and restoration of the Project.

In addition to standard requirements such as the bidder’s safety performance, financial health, capabilities, capacity and experience, quality management plan, schedule, pricing and other requirements, the bidders were requested to propose value engineering solutions alternative designs and other solutions to optimize the demolition and construction of the Project and ultimately reduce the overall construction cost. Specific goals and requirements for Minority and Women-Owned Business Enterprises
('M/WBE'), Service-Disabled Veteran-Owned Small Businesses ('SDVOB') and Local Subcontracting were included.

On November 30, 2018, five bidders, EOF Transmission Line Constructors JV, J.W. Didado Electric, LLC, KHMA Moses to Adirondack, a Joint Venture, Michels Power, a Division of Michels Corporation, and PAR Electrical Contractors, Inc. submitted construction services proposals, including their proposed plans, resources and cost for support development of EM&CP.

On January 23, 2019, three personal services contracts were awarded, pursuant to the Authority’s Expenditure Authorization Procedures, to support the Authority in the development of the Project’s EM&CP to:

- Kiewit, Henkels & McCoy and Aldridge Joint Venture
- Michels Power, a Division of Michels Corporations
- PAR Electrical Contractors, Inc.

On August 13, 2019 a Post Bid Addendum to the aforementioned RFP was issued to the three pre-qualified vendors. Proposals were received on October 10, 2019 and are currently being evaluated by the Evaluation Committee. Approval for the contract award will be sought pursuant to the Authority’s Expenditure Authorization Procedures, including the Trustees’ approvals, as needed.

A Limited Notice to Proceed may also be issued in early January to support initial construction activities.

FISCAL INFORMATION

Payment associated with this Project will be made from the Authority’s Capital Fund and will be recovered under the Authority’s FERC approved formula rate. Amounts in excess may require approvals in accordance with the New York Independent Service Operator (‘NYISO’) tariff.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees authorize capital expenditures in the amount of $341.2 million to complete the Moses-Adirondack Smart Path Reliability Project.

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

Mr. Joseph Kessler provided highlights of staff’s recommendation to the committee.

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees, in accordance with the Authority’s Capital Planning and Budgeting Procedures, approve capital expenditures in the amount of $341,178,500 for continuation of the Moses-Adirondack Smart Path Reliability Project; and be it further
RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the capital costs of the Moses-Adirondack Smart Path Reliability Project:

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moses-Adirondack</td>
<td>$341,178,500</td>
</tr>
<tr>
<td>Smart Path Reliability Project - Phase II</td>
<td></td>
</tr>
</tbody>
</table>
ii. **Smart Generation and Transmission Strategic Initiative – Communications Backbone Program – Phase III Capital Expenditure Authorization Request**

The President and Chief Executive Officer submitted the following report:

**“SUMMARY”**

The Trustees will be requested at their December 11, 2019 meeting to approve capital expenditures in the amount of $52.72 million for Phase III of the Communications Backbone Program (‘Program’). Phase III of the Program includes engineering, procurement, and construction services for final installation of fiber optic cables on existing transmission towers in Northern and Central NY, a redundant Microwave System in South Eastern NY, and a Microwave link connecting the Fitzpatrick Power Plant.

The total estimated Program cost is $153 million. The Trustees approved $19.78 million in March 2017 and $77.5 million in October 2018. This request will release the final balance of the capital expenditures for the Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of $52.72 million for Phase III of the Program.

**BACKGROUND**

In accordance with the Authority’s Capital Planning and Budgeting Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

The Program is a foundational element of the Authority’s Smart Generation & Transmission (‘Smart G&T’) Strategic Initiative. The goal of the Program is to establish a dedicated, redundant communications network that builds on the Authority’s existing infrastructure and is integrated into the long-term asset strategy while leveraging available infrastructure from independent dark-fiber service providers to reduce dependency on commercial telecommunication providers.

Once completed, the Authority will have a dedicated, robust, secure, and scalable communications network that supports:

1. Replacement of legacy point-to-point circuits that will inevitably need to be retired.
2. Increased data flow from a host of intelligent end-point devices deployed throughout the Authority’s generation and transmission assets.
3. Enabling capabilities of key components of the Strategic Vision including the Integrated Smart Operating Center (‘iSOC’) and the Emergency Energy Control Center.
4. Improved analytics to promote improved business and operational decisions.

The redundant network will leverage existing infrastructure and new installations including fiber Optical Ground Wire (‘OPGW’) and Optical Attached Cable (‘OPAC’), which will be installed on the Authority’s existing transmission towers. A new redundant Microwave system, similar to Northern NY, will be installed in South Eastern NY leveraging existing Authority infrastructure as well as tower leasing sites for optimum communication and stability.
DISCUSSION

The total estimate for the Program remains at $153 million, which was previously presented at the October 2018 Trustee meeting. The balance of the capital expenditures will be utilized to complete the following work:

1. Installation of OPGW on the following segments:
   - Moses – Willis – Plattsburgh
   - Utica to Cooper’s Corner

2. Additional Microwave Systems installed at the following locations:
   - Fitzpatrick to Utica

3. Leasing sites, as needed, for redundancy and optimal communications between Authority sites

Capital expenditures in the amount of $100,305,375 were previously approved for implementation of Phases I and II and planning for Phase III. Approval of this request will bring the total authorized to date, to $153,030,162.

The Program cost for Phase III is broken down as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Design</td>
<td>$1,632,118</td>
</tr>
<tr>
<td>Material Procurement &amp; Construction/Installation</td>
<td>$46,297,509</td>
</tr>
<tr>
<td>Authority Direct and Indirect Expenses</td>
<td>$4,795,158</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$52,724,786</strong></td>
</tr>
</tbody>
</table>

At this time, the Program remains on budget and on schedule with Phase III anticipated for completion in 2021. A majority of the remaining work is outage-dependent, which may impact the schedule. The projected spending for Phase III is included in the Proposed Four-Year Budget and Financial Plan.

FISCAL INFORMATION

Payment associated with this Project will be made from the Authority’s Capital Fund and will be recovered under the Authority’s FERC approved formula rate.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve $52.72 million for Phase III of the Communications Backbone Program.

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

Mr. Joseph Kessler provided highlights of staff's recommendation to the committee.
On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $52.7 million for Phase III of the Communications Backbone Program in accordance with, and as recommended in, the foregoing memorandum of the President and Chief Executive Officer; and be it further

RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the capital costs of the Smart Generation & Transmission Initiative Communications Backbone Program – Phase III;

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Generation &amp; Transmission Initiative</td>
<td>$52,724,786</td>
</tr>
<tr>
<td>Communications Backbone Program - Phase III</td>
<td></td>
</tr>
</tbody>
</table>
iii. Transmission Life Extension and Modernization Program –
St. Lawrence Breaker and Relay Replacement Program – Phase 2
Capital Expenditure Authorization Request

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their December 11, 2019 meeting to approve capital expenditures in the amount of $44,234,000, for Phase 2 of the St. Lawrence Breaker and Relay Replacement Program (‘Project’).

The total estimated Project cost is $110 million. Capital Expenditures for Phase 1, in the amount of $65,766,000, were previously approved by the Trustees in December 2012. Approval of this request will release the final balance of the capital expenditures expected for the Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of $44,234,000 for Phase 2 of the Project.

BACKGROUND

The Transmission Life Extension and Modernization (‘TLEM’) is a multiyear program that will upgrade the Authority’s existing transmission system to maintain availability, increase reliability, and ensure regulatory compliance. The TLEM Program encompasses transmission assets in the Central, Northern, and Western Regions and has been divided into several projects at an estimated cost of $726 million.

This Project includes equipment upgrades at the St. Lawrence Robert Moses Switchyard. Based on field assessments, data analysis and the expected service life of similar equipment, circuit breakers and disconnect switches have reached the end of their useful life, have limited manufacturer support and are in need of replacement.

DISCUSSION

Phase 1, which was completed in 2016, included the replacement of thirty-one oil circuit breakers, protection cut over of fourteen power circuit breakers and the procurement of all protective relaying panels associated with the future replacement of the Substation Automation Monitoring and Control (‘SAMAC’) system.

This Phase 2 expenditure request includes the replacement of thirteen oil circuit breakers, cut over of nine gas-insulated power circuit breakers, and replacement of all the 230kV breakers and line disconnect switches.

The projected spending for Phase 2, which is anticipated to be completed in 2021, is included in the Proposed Four-Year Budget and Financial Plan.
The total cost for Phase 2 estimated at $44,234,000, is as follows:

- Engineering/Design: $5,539,000
- Procurement: $5,243,000
- Construction/Installation: $26,794,000
- Authority Direct and Indirect Expenses: $6,658,000

**TOTAL** $44,234,000

**FISCAL INFORMATION**

Payment associated with this Project will be made from the Authority’s Capital Fund and 100% of the cost will be recovered under the Authority’s Annual Transmission Revenue Requirement.

**RECOMMENDATION**

It is requested that the Finance Committee recommend that the Trustees approve capital expenditures in the amount of $44,234,000 for Phase 2 of the St. Lawrence Breaker and Relay Replacement Program.

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

*Mr. Joseph Kessler provided highlights of staff’s recommendation to the committee.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED,** That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $44,234,000 for Phase 2 of the St. Lawrence Breaker and Relay Replacement Program;

**RESOLVED,** That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the costs of Phase 2 of the St. Lawrence Breaker and Relay Replacement Program;

<table>
<thead>
<tr>
<th>Capital authorized</th>
<th>Expenditure Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Lawrence Breaker and Relay Replacement Program – Phase 2</td>
<td>$44,234,000</td>
</tr>
</tbody>
</table>
iv. Smart Generation Strategic Initiative – Advanced Power Flow Control Project – Capital Expenditure Authorization Request

The President and Chief Executive Officer submitted the following report:

"SUMMARY

The Trustees will be requested at their December 11, 2019 meeting to approve capital expenditures in the amount of $11.5 million, for the implementation of the Advanced Power Flow Control Project (‘Project’). Capital Expenditures in the amount of $500,000 for preliminary engineering, was previously approved by the President and Chief Executive Officer in June 2018, bringing the total estimated Project cost to $12.0 million.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of $11.5 million for the implementation of the Project.

BACKGROUND

In accordance with the Authority’s Capital Planning and Budgeting Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

This Project aligns with the Smart Generation and Transmission Strategic Initiative to optimize transmission assets. The Project will include an advanced power flow control solution that can dynamically increase or decrease line reactance, similar functionality as a phase angle regulator. This installation will allow the Authority to enable real-time control power flow to ‘push’ power away from congested lines or ‘pull’ more power onto underutilized paths and unlock the excess capacity that exists on the grid. This technology will add benefits for Authority operations while also reducing the cost of energy for customers across the state and help drive a clean economy through the use of clean, renewable power from northern New York.

Initial studies have indicated that the greatest benefit can be realized from the deployment of a modular and scalable solution in the northern region of NY State.

DISCUSSION

Studies and planning have been underway since 2018. Staff performed market study analysis using GE-MAPS software to run more than thirty scenarios across multiple locations, voltage class, levels of compensation and timing. Study results determined that the NYPA Moses-Adirondack 1 & 2 lines yielded the best value, benefit and ease of execution for the Project. A NYISO System Impact Study (‘SIS’) (Interconnection Queue #760) was performed to evaluate the impact of the Project on the reliability of the New York State Transmission System. The SIS was performed in accordance with the requirements of the NYISO Open Access Transmission Tariff. Additionally, a line protection study was performed to ensure any system protection modifications are identified via steady-state modeling and hardware in the loop modeling at NYPA’s Advanced Grid Innovation Lab for Energy (‘AGiLe’). Conceptual engineering design has been developed alongside the studies for time efficiencies.

Project execution is planned to occur over a three-year period, commencing in 2019, with the issuance and finalization of the Engineering, Procurement and Construction (‘EPC’) specifications, EPC bidding and contract award by Spring 2020 and with installation, testing, commissioning and project closeout completing in 2021.
FISCAL INFORMATION

Payment associated with this Project will be made from the Authority's Capital Fund and will be recovered under the Authority's FERC approved formula rate.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve $11.5 million for implementation of the Advanced Power Flow Control Project.

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

Mr. Joseph Kessler provided highlights of staff’s recommendation to the committee.

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of $11.5 million for the Advanced Power Flow Control Project in accordance with, and as recommended in, the foregoing report of the President and Chief Executive Officer;

RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the costs of the Advanced Power Flow Control Project:

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Power Flow Control Project</td>
<td>$11,500,000</td>
</tr>
</tbody>
</table>
c. **Informational: Update on Project/Program/Construction Management On-Call Services Contract Awards**

“Mr. Joseph Kessler, Chief Operations Officer, provided an Update on the Authority’s Project/Program/Construction Management On-Call Services Contract Awards. He said that the Authority has On-Call retainer contracts to provide a pool of resources to support internal staff on an “as-needed” basis in order to supplement its internal engineering resources and capacity and improve its ability to deliver projects in a timely manner. The Authority has a strict evaluation process for services under these contracts. Some of the services to be rendered include program management, cost control, scheduling, estimating, document control and strategic supply chain management.

Examples of some of the projects that will use these contracts are:

- Moses-Adirondack Smart Path Reliability Project;
- Transmission Life Extension & Modernization;
- Next Generation Niagara (new capital project);
- Communications Backbone; and
- Sensor Deployment

**Evaluation Process and Next Step**

In June 2019, the Authority issued a Request for Proposal and received 25 proposals. These proposals were evaluated by a cross-functional evaluation committee. The committee considered cost; technical competence; Minority/Women-owned Business Enterprises (‘M/WBE’) and Service-Disabled Veteran-Owned Business (‘SDVOB’) participation; firm capacity and relevant experience either with NYPA or in the industry to ensure that the company have done similar types of work and understand the nature of the project.

Mr. Kessler ended by saying that at the Trustees’ December 2019 meeting value of contracts for a five-year period, in an aggregate amount of approximately $100 million, will be presented to the Board for approval. These individual mini bids will be within the confines of the existing and/or the O&M Budget of each of those projects.”
d. 2020 Budget and Filing of the 2020-2023 Budget and Four-Year Financial Plan Pursuant to Regulations of the Office of the State Comptroller

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their December 11, 2019 meeting to approve the 2020 Budget for the Authority, specifically including the expenditures for the (i) 2020 Operations and Maintenance (‘O&M’) Budget (attached as Exhibit ‘5d-A’), (ii) 2020 Capital Budget (attached as Exhibit ‘5d-B’), (iii) 2020 Energy Services Budget (attached as Exhibit ‘5d-C’) and (iv) 2020 Canal Development Fund Budget (collectively, with Exhibits ‘5d-A’, ‘5d-B’, and ‘5d-C’, the ‘2020 Power Authority Budgets’).

The 2020 Power Authority Budgets set forth the expected expenses of the Authority and include the recommended expenditures in the following amounts:

<table>
<thead>
<tr>
<th>2020 Power Authority Budgets</th>
<th>($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M</td>
<td>$ 610.0</td>
</tr>
<tr>
<td>Capital</td>
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<tr>
<td>Energy Services</td>
<td>$ 257.2</td>
</tr>
<tr>
<td>Canal Development Fund</td>
<td>$ 2.6</td>
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</table>

In accordance with regulations of the Office of the State Comptroller (‘OSC’), the Trustees will also be requested at their December 11, 2019 meeting to approve the 2020-2023 Four-Year Budget and Financial Plan [attached as Exhibit ‘5d-D’ (in the form approved, the ‘Approved 2020-2023 Four-Year Budget and Financial Plan’)] and authorize: (i) submitting the Approved 2020-2023 Four-Year Budget and Financial Plan to OSC, (ii) posting the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority’s website, and (iii) making the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public places throughout New York State.

The Finance Committee is requested to recommend that the Trustees (1) approve the 2020-2023 Four-Year Budget and Financial Plan, and (2) authorize (i) submitting the Approved 2020-2023 Four-Year Budget and Financial Plan to the OSC in the prescribed format, (ii) posting the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority’s website, and (iii) making the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public locations throughout New York State.

BACKGROUND

The Authority is committed to providing clean, low-cost and reliable energy consistent with its commitment to the environment and safety, while promoting economic development and job development, energy efficiency, renewables and innovation, for the benefit of the Authority’s customers and all New Yorkers. The mission statement of the Authority is to power the economic growth and competitiveness of New York State by providing customers with low-cost, clean, reliable power and the innovative energy infrastructure and services they value.

The New York State Canal Corporation (the ‘Canal Corporation’) became a subsidiary of the Authority effective January 1, 2017. The 2020 Power Authority Budgets include the budget information of the Authority and the Canal Corporation. Assumptions that were used by staff to prepare the 2020 Power
Authority Budgets, and for forward periods, have been incorporated in the 2020-2023 Four-Year Budget and Financial Plan.

The 2020 Power Authority Budgets are intended to provide the Authority’s operating facilities with, and support organizations by providing, the resources needed to meet the Authority’s overall mission and the Authority’s strategic objectives, and to fund the expenses of the Canal Corporation. Any transfers of funds from the Authority to the Canal Corporation would be subject to compliance with the Authority’s General Resolution Authorizing Revenue Obligations, as amended and supplemented (the ‘Revenue Bond Resolution’). Canal Development Fund expenses are expected to be reimbursed to the Authority by the State Comptroller with monies held in the New York State Canal System Development Fund as discussed in the attached Canal Corporation Budget report.

In approving the 2020 Power Authority Budgets, the Trustees will be authorizing spending for 2020 operations, spending for capital projects, and spending for general plant purchases of $1.5 million or less. The requested headcount in the 2020 Power Authority Budgets will remain unchanged.

In accordance with the Authority’s Expenditure Authorization Procedures, the President and Chief Executive Officer may, during the course of the year, authorize an additional 1.0% in the O&M Budget, up to 15 new positions, new capital projects of $6.0 million or less, or an increase in spending of no more than $6.0 million to a capital project previously approved by the Trustees. All other spending authorizations must be approved by the Trustees.

The OSC implemented regulations in March 2006 addressing the preparation of annual budgets and four-year financial plans by ‘covered’ public authorities, including the Authority. (See 2 NYCRR Part 203 (‘Part 203’)). These regulations, which are discussed below, establish various procedural and substantive requirements relating to the budgets and financial plans of public authorities. The 2020-2023 Four-Year Budget and Financial Plan has been prepared in accordance with these regulations.

DISCUSSION

2020 Power Authority O&M Budget

The 2020 O&M Budget of $519.0 million reflects a continued concentration on the effective operation and maintenance of the Authority’s critical investments in New York State’s electric infrastructure and the Canal Corporation in addition to the continued support of NYPA’s strategic investments. The 2020 O&M Budget includes the Astoria Energy II lease payment of $22.0 million which represents the contractual O&M costs for the plant, which was placed in commercial operation in New York City in July 2011. These costs are being recovered from the Authority’s New York City governmental customers, who are beneficiaries of the outputs of these projects under a long-term contract with the Authority.

The 2020 O&M Budget for Operations provides $271.1 million for baseline, or recurring work. In addition to the baseline work, scheduled maintenance outages at the Zeltmann Plant and the Small Clean Power Plants and Richard M. Flynn Power Plant (totaling $7.9 million), and planned enhancements in non-recurring maintenance work at the operating facilities (totaling $35.6 million), are designed to support high reliability goals. Some of the major non-recurring projects include: Niagara Region Tower Painting ($2.9 Million), Robert Moses Stop Log Rail Replacement ($2.5 Million), Robert Moses Headgate Refurbishment ($2.3 Million), Marcy South Region Tower Painting ($1.9 Million), Robert Moses Upper Headgate Rail Slot Refurbishment ($1.4 Million), ISO 55000 Asset Management Initiative ($1.0 Million), and the Crescent Dam Concrete Rehabilitation project ($1.0 Million).

The 2020 O&M Budget for Operations includes $91.0 million for the Canal Corporation for the purposes described in the 2020 Canal Corporation Budget report being presented to the Canal Corporation Board of Directors at the December 2019 meeting.
2020 Power Authority Capital Budget

The 2020 Capital Budget totals $537.3 million, which is a 16.2% increase over the 2019 Budget. Of this amount, $367.5 million – or 68.4% of the total – represents planned investments in the Authority’s Upstate New York facilities at Niagara and St. Lawrence, as well as in the Authority’s statewide Transmission network. Significant capital projects for 2020 include: Moses Adirondack 1 & 2 Transmission Line Upgrade ($91.5 million), Communications Backbone ($51.7 million), Strategic Electric Vehicle Charging Station Installation ($36.8 million), Lewiston Pump Generation Plant Life Extension and Modernization (‘LEM’) ($33.2 million), Marcy to New Scotland Transmission Line Upgrade ($27.1 Million), and the Niagara Transmission Life Extension and Modernization (‘LEM’) ($17.1 million).

The 2020 Capital Budget includes $69.9 million for the Canal Corporation for the purposes described to the Finance Committee at this meeting and will be presented to the Canal Corporation Board of Directors at its December 2019 meeting.

2020 Energy Services Budget

The 2020 Energy Services Budget totals $257.2 million, an increase of $45.2 million from the 2019 Energy Services Budget. These expenditures will be subsequently recovered over time from the benefitting customers. The 2020 Energy Services Budget includes funding for energy efficiency projects for Authority customers and other eligible entities as the Authority strives to support the State’s improved energy efficiency and clean, renewable energy goals.

2020 Canal Development Fund Budget

The 2020 Canal Development Fund Budget totals $2.6 million, representing ongoing costs associated with the New York State Canal System Development Fund (‘Canal Development Fund’).

The Canal Development Fund, created by State Finance Law §92-u, is a fund established in the joint custody of the State Comptroller and the Commissioner of Taxation and Finance. The Canal Development Fund consists largely of revenues received from the operation of the Canal System. Monies of the Canal Development Fund, following appropriation by the legislature, is made available to the Authority, and may be expended by the Authority or the Canal Corporation for the maintenance, construction, reconstruction, development or promotion of the Canal System. In addition, monies of the Canal Development Fund may be used for the purposes of interpretive signage and promotion for appropriate historically significant Erie Canal lands and related sites. Monies from the Canal Development Fund are paid out by the State Comptroller on certificates issued by the Director of the Budget.

2020-2023 Four-Year Budget and Financial Plan

Under Part 203 of the OSC Regulations, the Trustees are required to adopt a Four-Year Budget and Financial Plan. The approved Four-Year Budget and Financial Plan must be available for public inspection not less than seven days before the commencement of the next fiscal year for a period of not less than 45 days and in not less than five convenient public places throughout the State. The approved Four-Year Budget and Financial Plan must also be submitted to OSC, via electronic filing through the Public Authorities Reporting Information System, within seven days of approval by the Trustees. The regulations also require the Authority to post the approved Four-Year Budget and Financial Plan on its website.

Under Part 203, each Four-Year Budget and Financial Plan must be shown on both an accrual and cash basis and be prepared in accordance with generally accepted accounting principles; be based on reasonable assumptions and methods of estimation; be organized in a manner consistent with the public authority’s programmatic and functional activities; include detailed estimates of projected operating revenues and sources of funding; contain detailed estimates of personal service expenses related to
employees and outside contractors; list detailed estimates of non-personal service operating expenses and include estimates of projected debt service and capital project expenditures.

Other key elements that must be incorporated in each Four-Year Budget and Financial Plan are a description of the budget process and the principal assumptions, as well as a self-assessment of risks to the budget and financial plan. Additionally, each Four-Year Budget and Financial Plan must include a certification by the Chief Operating Officer.

The first year of the 2020-2023 Four-Year Budget and Financial Plan is based on the 2020 Power Authority Budgets being brought to the Board for approval at this time. The remaining three years are indicative forecasts.

FISCAL INFORMATION

Payment of O&M expenses will be made from the Operating Fund. Any transfers of funds from the Authority for payment of O&M expenses of the Canal Corporation would be subject to approval by the Authority’s Board of Trustees and compliance with the Authority’s Revenue Bond Resolution.

Payment for Capital and Energy Services expenditures will be made from the Capital Fund and the Energy Conservation Construction and Effectuation Fund, respectively. Monies of up to $607.2 million from the Operating Fund will be transferred to the Capital Fund for capital expenditures, subject to compliance with the Revenue Bond Resolution.

Canal Development Fund expenses are expected to be reimbursed to the Authority by the State Comptroller with monies held in the Canal Development Fund as discussed above.

The 2020 Operating Budget shows adequate earnings levels so that the Authority may maintain its financial goals for cash flow and reserve requirements.

The 2020-2023 Four-Year Budget and Financial Plan’s net income estimates for each of the years 2020 through 2023 are indicative forecasts. The Trustees are not being asked to approve any revenue and expenditure amounts for those years at this time.

RECOMMENDATION

The Chief Financial Officer requests that the Finance Committee recommends that the Trustees approve the 2020 Budget for the Power Authority, specifically including the expenditures for the (i) 2020 Operations and Maintenance Budget, (ii) 2020 Capital Budget, (iii) 2020 Energy Services Budget and (iv) 2020 Canal Development Fund Budget, each as discussed herein.

In connection with the 2020 Capital Budget, the Chief Financial Officer requests that the Finance Committee recommends that the Trustees authorize the transfer of up to $607.2 million from the Operating Fund to the Capital Fund, subject to compliance with the Revenue Bond Resolution.

The Chief Financial Officer further requests that the Finance Committee recommends the Trustees (1) approve the 2020-2023 Four-Year Budget and Financial Plan, and (2) authorize (i) submitting the Approved 2020-2023 Four-Year Budget and Financial Plan to the OSC in the prescribed format, (ii) posting the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority’s website, and (iii) making the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public locations throughout New York State.

For the reasons stated, I recommend the approval of the above-requested actions by adoption of the resolution below.”
Mr. Adam Barsky, Chief Financial Officer, provided highlights of staff’s recommendation to the Board.

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee hereby recommends that the Trustees approve the 2020 Budget for the Power Authority, specifically including the expenditures for the (i) 2020 Power Authority Operations and Maintenance Budget, (ii) 2020 Capital Budget, (iii) 2020 Energy Services Budget and (iv) 2020 Canal Development Fund Budget, each as discussed in the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That the Finance Committee recommends that the Trustees authorize up to $607.2 million of monies in the Operating Fund are hereby authorized to be withdrawn from such Fund and deposited in the Capital Fund, provided that at the time of withdrawal of such amount or portions of such amount, the monies withdrawn are not then needed for any of the purposes specified in Sections 503(1)(a)-(c) of the General Resolution Authorizing Revenue Obligations as amended and supplemented, with the satisfaction of such condition being evidenced by a certificate of the Treasurer or the Deputy Treasurer; and be it further

RESOLVED, That the Finance Committee recommends that the Trustees, pursuant to 2 NYCRR Part 203, approve the 2020-2023 Four-Year Budget and Financial Plan, including its certification by the Chief Operating Officer, in accordance with the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That the Finance Committee recommends that the Trustees, pursuant to 2 NYCRR Part 203, authorize the Corporate Secretary to submit the Approved 2020-2023 Four-Year Budget and Financial Plan to the Office of the State Comptroller in the prescribed format, post the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority’s website and make the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public places throughout New York State.
e. **Informational: Update on Prospective Finance Related RFPs**

Mr. Adam Barsky, Chief Financial Officer, provided an update on prospective finance-related Request for Proposals (RFPs) for funding of the Authority’s businesses and strategic initiatives.

**2020 Financial RFPs**

- Liquidity Facility – to have banks available to support current and future operations and strategic initiatives

- Financial Advisors – to retain, on an as-needed basis, a variety of financial advisors, from leading national and Minority/Women-owned Business Enterprises (MWBE)/Service-Disabled Veteran-Owned Business (SDVOB) firms with subject matter expertise, required as a result of the strategic planning process, to support NYPA in undertaking future strategic and financing activities.

- Term Financing – for NYPA’s underwriter selection process. NYPA will select a syndicate of underwriters from leading national and MWBE/SDVOB firms for its long-term tax-exempt and taxable funding needs associated with the capital plan and strategic initiatives.

In January, staff plans to request that the Finance Committee recommend the Board’s authorization for awards of funding for these initiatives.

The President and Chief Executive Officer submitted the following report:

"SUMMARY"

The Trustees will be requested at their December 11, 2019 meeting to approve the use of the Authority’s Series 1, Series 2 and Series 3 Commercial Paper Notes (‘Series 1-3 CP Notes’) to refund outstanding bonds, notes or other obligations (‘Obligations’) of the Authority, including the Authority’s 2007A and 2007C Revenue Bonds (‘2007AC Bonds’), in addition to the presently authorized uses of the Series 1-3 CP Notes. The 2007AC Bonds are callable at par by the Authority on any date upon at least thirty days’ notice. The Authority may realize significant savings by refunding the 2007AC Bonds with lower interest cost debt, such as the Series 1-3 CP Notes, and similar opportunities may arise in the future with respect to other Obligations.

The Finance Committee is requested to recommend that the Trustees approve the use of Series 1-3 CP Notes to refund Obligations.

BACKGROUND

The 2007AC Bonds were issued at interest rates ranging from 4.0% to 5.0% to refund a portion of the Authority’s Commercial Paper Notes, finance a portion of the costs of the relicensing of the Niagara project, and refund a portion of the Authority’s Series 2002 A Revenue Bonds.

Under the Authority’s Amended and Restated Resolution Authorizing Commercial Paper Notes, adopted November 25, 1997 and as amended and supplemented (the ‘CP Resolution’), the Authority is authorized to issue Series 1, Series 2, Series 3 and Series 4 Commercial Paper Notes for the various purposes set forth in prior resolutions of the Authority or for any purpose subsequently approved by the Authority’s Trustees.

The CP Resolution requires that Commercial Paper Notes issued by the Authority are backstopped for payment by a revolving credit facility. The existing revolving credit facility supports the Series 1-3 CP Notes in an amount up to $700 million.

DISCUSSION

In 2007, when NYPA issued the Series 2007A and Series 2007C Bonds, the securities included a full suite of terms and conditions including a redemption clause giving the Authority the option, but not the obligation, to refund the 2007AC Bonds on or after the ten year mark.

Based on internal analysis related to the Authority’s financial profile and position, as well as the value associated with a refunding, Management believes there is the potential to recognized significant interest cost saving by refunding the 2007AC Bonds on the order of 20+% net present value.

Management intends to refund the 2007AC Bonds with proceeds from the issuance of Series 1-3 CP Notes as an interim step preceding the issuance of a new long-term financing, both subject to receiving the necessary approvals from the Finance Committee and Board of Trustees. Both the interim commercial paper financing and the new long-term financing have been incorporated into the 2020 Budget & Four-Year Plan.

The Series 1 Notes, the Series 2 Notes and the Series 3 Notes are authorized in amounts up to $400 million, $450 million and $350 million, respectively, and may be used for various purposes set forth in prior resolutions of the Authority and/or for any other purposes subsequently approved by the Authority’s Trustees. The Series 4 Notes are authorized in an amount up to $220 million and may be
used for various purposes described in prior resolutions of the Authority which include refunding or paying at maturity, any obligations of the Authority, as well as any other purpose subsequently approved by the Authority’s Trustees.

The Trustees may approve the use of the Series 1-3 CP Notes to refund Obligations by adopting the resolution below.

FISCAL INFORMATION

Staff has determined that significant savings are available if the Authority refunds the 2007AC Bonds with Series 1-3 CP Notes or other lower-interest cost debt. Internal analysis, as well as third-party analysis, indicates that the value to the Authority from such a series of transactions is 20+% net present value, given current financing rates. By refunding the 2007AC Bonds, Management also has the opportunity to tailor the structure of a new long-term financing in a manner that optimizes the Authority’s liquidity and debt maturity profile to appropriately match the Authority’s sources and uses of funds.

RECOMMENDATION

It is requested that the Finance Committee recommends that the Trustees approve the use of the Authority’s Series 1-3 CP Notes to refund Obligations.

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

Mr. Adam Barsky, Chief Commercial Officer, provided highlights of staff’s recommendation to the Board.

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee hereby recommends that the Trustees approve the use of the Authority’s Series 1, Series 2 and Series 3 Commercial Paper Notes to refund outstanding bonds, notes or other obligations of the Authority.
g. Informational: Vision 2030: Strategic Plan Overview & Update

Mr. Doug McMahon, Vice President of E-mobility and Grid Flexibility, presented an update on the Authority’s Vision 2030 Proposed Mission and Vision (Exhibit 5g-A). He said that in March 2020, as part of staff's annual strategy submission, staff is planning to request that the Trustees formally approve VISION2030. At this meeting, he will present the Strategic Plan to Board. The plan is to finalize the Plan’s content and be prepared to release the Plan in Q1 of 2020.

Mission and Vision

The Authority introduced the proposal to update its mission and vision at the September Trustee meeting.

NYPA’s Vision is a concise aspirational statement of the world it is trying to create through the efforts and actions of its business. The proposed vision is for “A thriving and resilient New York powered by clean energy.” This describes a successful outcome of the two areas that NYPA is working towards – stimulating the economy and generating clean electricity.

NYPA’s proposed Mission Statement is subtlety different from the one approved in 2014. The new Mission statement states that NYPA will be “Leading the transition to a carbon free, economically vibrant New York through partnership with customers on innovative energy solutions and the responsible supply of affordable, clean, reliable electricity.”

This new mission statement is the same structure and nomenclature as the previous statement, but with some impactful alterations that reflect not only NYPA’s changing business environment, but the role NYPA is looking to play. The word “Leading” elevates the importance of decarbonization and “carbon-free” places the customer in the center of the Strategic Plan and NYPA’s mission both figuratively and literally. The word “responsible” is an affirmation of NYPA’s historical role of stewardship, objectivity, and operational excellence.

Strategic Themes

The strategic themes summarize the relationship between NYPA’s customers and the proposed strategic goals.

Customer Decarbonization – The industry needs to both decarbonize the generation of electricity and change the way customers consume electricity if we are to do so in an affordable and reliable way. Decarbonizing NYPA’s customers’ electricity supply and wider energy needs will require four types of strategic investments from the Authority:

1) Cleaning NYPA’s customers electricity supply;
2) Energy efficiency – reducing the number of electrons consumed;
3) Electrification – optimally integrating new forms of electrical loads; and
4) Demand Flexibility – building flexibility in customer load and assets.

With the right technological breakthroughs and commercialization of these technologies, NYPA have a fair chance of achieving customer decarbonization within the next 15 to 20 years.

NYPA will not be able to achieve 100 percent clean electricity supply and 100 percent affordable Clean electricity supply without investing in the three strategic themes on the demand side: Energy Efficiency; Electrification and Demand Flexibility.

These three strategic themes will focus on helping the Authority’s customers change the way they consume electricity to ensure that NYPA best align the consumption of electricity to the natural and intermittent nature of renewable energy supply.
Investing in these three areas will not only reduce NYPA’s customers’ dependency on the forms of generation that support short periods of peak demand, and these are typically the most carbon-intensive forms of generation, but will enable NYPA’s customers to consume electricity when renewable supply is the most prevalent, helping with affordability.

The final two strategic themes, Consumer Value and Clean Economic Development, are necessary to build out the required NYPA and customer capabilities, tools and technologies to optimally manage a cleaner, reliable, and affordable electricity system. These are continuations of strategic investments that NYPA is already making in the areas of end-to-end digitalization and workforce development.

Through NYPA’s recent ISO 55001 certification, NYEM and the rollout of Mosaic, the Authority have made some incredible strides in these strategic theme areas over the last three to four years.

The customer is the center of the Authority’s operations. NYPA cannot achieve its strategic goals without helping its customers achieve their goals. This is an important message that is fundamental to what the Authority trying to achieve through the Vision 2030 Plan.

Proposed structure of the Vision2030 Plan

The proposed key sections of the Vision2030 Plan:

- The Plan will make clear the link between NYPA’s current Strategic Plan and Vision2030.
- **Climate Change Challenge**
  Decarbonization and the economy – the Plan will summarize the decarbonization challenge and the link between it and a thriving New York State economy.
- **Electricity Grid of 2040 and Customer journey**
  The Plan will outline what the electricity grid of 2040 will need to look like in order to accommodate clean electricity, and what it will mean for the Authority’s customers.
- **NYPA’s Role**
  The Plan will discuss the role that NYPA is playing in the realization of a carbon-free economy and the role it will continue to play in the future.
- **Value NYPA Brings**
  The Plan will explain the value that NYPA brings to New York’s electricity system and why it is well-positioned to play a central role in implementation of the Climate Leadership and Community Protection Act (CLCPA).
- **Partnering with NYPA’s Customers**
  The Plan will also outline how the Authority is going to work with its customers on their journey to decarbonizing their energy consumption.
- **Measuring Success**
  The Plan will outline how the Authority will measure its success over the next ten years.
- **Strategic Themes**
  The Plan will outline investment areas through those strategic themes over the next five years.

The Authority’s goal is to have a final version of the Vision2030 Plan completed by end of the year. In addition, the Authority will provide another update of the Plan at the December Board meeting.
6. **Next Meeting**

Chairperson McKibben said that the next regular meeting of the Finance Committee is to be determined.
Closing

Upon motion made by member Dennis Trainor and seconded by member John Koelmel, the meeting was adjourned by Chairperson McKibben at approximately 10:20 a.m.

Karen Delince
Karen Delince
Corporate Secretary
EXHIBITS

For

November 19, 2019

Meeting Minutes
Energy Efficiency & Customer-sited Renewables

Business Line Operating Plan Update

Sarah Salati, EVP & Chief Commercial Officer
NYPA's Energy Efficiency Program

- Since 1998, Trustees have authorized funding of $3.88B for energy efficiency programs; the funding of which is recovered from program participants*
- NYPA's project pipeline has grown significantly from strong customer demand
- State policy objectives and a growing pipeline require extending program funding and establishing an expanded vendor pool for project implementation
- Authorization is being requested for $1.5B of program funding to support execution of customer pipeline to complement expected funds from existing repayment schedules
- Authorization is being requested for value contracts awarded to 19 contractors for ongoing project implementation

*Excluding approved grants.
Energy efficiency pipeline has grown substantially.

Pipeline
Project portfolio has grown over 30% from $1.2B in 2015 to $1.9B as of August 2019. The number of projects has increased by 50%.

CICs Executed
CICs executed has more than doubled since 2015, with 2019 projections coming in at $417M compared to the $167M executed in 2015.

Expenditures & Fees Earned
Expenditures have increased by 30% with fees earned trending at an increase of 43%.
Program funding is recovered from customers via project management fees and interest payments.
### Program Funding Summary

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<tr>
<th>Program</th>
<th>Program Authorization To-Date (A)</th>
<th>Committed To-Date* (B)</th>
<th>Remaining Authorization (A) - (B) = C</th>
<th>Forecasted To Spend (D)</th>
<th>Funding Need (D) – (C)</th>
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<td>$3.05B</td>
<td>$830M</td>
<td>$2.337B**</td>
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*Committed To–Date: Expenditures + Open PO values

**5-year forecast of $1.67B + 2 years of average run rate $660M
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<th>Departments</th>
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<th>2020 Request</th>
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<tr>
<td>Executive Offices</td>
<td>7,514.8</td>
<td>6,285.5</td>
<td>(1,229.3)</td>
<td>(16.4%)</td>
</tr>
<tr>
<td>Law</td>
<td>11,386.3</td>
<td>9,895.9</td>
<td>(1,490.5)</td>
<td>(13.1%)</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>4,687.2</td>
<td>4,539.9</td>
<td>(147.3)</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>Public &amp; Regulatory Affairs</td>
<td>8,480.2</td>
<td>7,723.1</td>
<td>(757.2)</td>
<td>(8.9%)</td>
</tr>
<tr>
<td>Executive Offices</td>
<td>32,068.6</td>
<td>28,444.3</td>
<td>(3,624.3)</td>
<td>(11.3%)</td>
</tr>
<tr>
<td>EVP Commercial Operations</td>
<td>889.9</td>
<td>2,107.4</td>
<td>1,217.5</td>
<td>136.8%</td>
</tr>
<tr>
<td>Project &amp; Business Development</td>
<td>2,874.1</td>
<td>3,042.0</td>
<td>168.0</td>
<td>5.8%</td>
</tr>
<tr>
<td>Energy Resource Management</td>
<td>658.0</td>
<td>1,002.0</td>
<td>344.0</td>
<td>52.3%</td>
</tr>
<tr>
<td>E-Mobility &amp; Grid Flexibility</td>
<td>-</td>
<td>1,718.6</td>
<td>1,718.6</td>
<td>-</td>
</tr>
<tr>
<td>Commercial Operations</td>
<td>4,422.0</td>
<td>7,870.0</td>
<td>3,448.0</td>
<td>78.0%</td>
</tr>
<tr>
<td>EVP &amp; CFO Business Services</td>
<td>522.8</td>
<td>1,081.2</td>
<td>558.3</td>
<td>106.8%</td>
</tr>
<tr>
<td>Budgets &amp; Business Controls</td>
<td>3,063.6</td>
<td>2,893.8</td>
<td>(169.8)</td>
<td>(5.5%)</td>
</tr>
<tr>
<td>Controller</td>
<td>5,193.6</td>
<td>6,041.7</td>
<td>848.1</td>
<td>16.3%</td>
</tr>
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<td>Financial Operations</td>
<td>1,037.5</td>
<td>387.6</td>
<td>(649.9)</td>
<td>(62.6%)</td>
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<td>Finance</td>
<td>1,450.7</td>
<td>1,114.5</td>
<td>(336.2)</td>
<td>(23.2%)</td>
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<td>Treasury</td>
<td>1,745.7</td>
<td>2,019.7</td>
<td>274.0</td>
<td>15.7%</td>
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<td>Risk Management</td>
<td>8,963.3</td>
<td>7,384.6</td>
<td>(1,578.7)</td>
<td>(17.6%)</td>
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<tr>
<td>Business Services</td>
<td>21,977.2</td>
<td>20,923.1</td>
<td>(1,054.2)</td>
<td>(4.8%)</td>
</tr>
<tr>
<td>SVP Corporate Strategy</td>
<td>-</td>
<td>2,183.6</td>
<td>2,183.6</td>
<td>-</td>
</tr>
<tr>
<td>Strategic Management</td>
<td>1,602.5</td>
<td>43.8</td>
<td>(1,558.7)</td>
<td>(97.3%)</td>
</tr>
<tr>
<td>Organizational Performance</td>
<td>-</td>
<td>1,702.6</td>
<td>1,702.6</td>
<td>-</td>
</tr>
<tr>
<td>Corporate Strategy</td>
<td>1,602.5</td>
<td>3,929.9</td>
<td>2,327.4</td>
<td>145.2%</td>
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<tr>
<td>Information Technology</td>
<td>33,381.7</td>
<td>30,539.0</td>
<td>(2,842.7)</td>
<td>(8.5%)</td>
</tr>
<tr>
<td>EVP HR &amp; Administration</td>
<td>1,045.2</td>
<td>806.1</td>
<td>(239.2)</td>
<td>(22.9%)</td>
</tr>
<tr>
<td>VP Enterprise Shared Services</td>
<td>498.7</td>
<td>479.5</td>
<td>(19.1)</td>
<td>(3.8%)</td>
</tr>
<tr>
<td>Corporate Communications</td>
<td>5,329.8</td>
<td>5,590.8</td>
<td>261.0</td>
<td>4.9%</td>
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<tr>
<td>Human Resources</td>
<td>10,854.3</td>
<td>11,280.0</td>
<td>425.7</td>
<td>3.9%</td>
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<td>Strategic Supply Management</td>
<td>5,690.6</td>
<td>7,548.8</td>
<td>1,858.2</td>
<td>32.7%</td>
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<td>Digital Warehouse</td>
<td>1,881.2</td>
<td>1,597.4</td>
<td>(283.9)</td>
<td>(15.1%)</td>
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<tr>
<td>Process Excellence</td>
<td>3,315.5</td>
<td>2,247.0</td>
<td>(1,068.4)</td>
<td>(32.2%)</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>1,903.1</td>
<td>1,639.9</td>
<td>(263.3)</td>
<td>(13.8%)</td>
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<td>Vehicle Support Services Group</td>
<td>-</td>
<td>469.9</td>
<td>469.9</td>
<td>-</td>
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<tr>
<td>WPO Support Services</td>
<td>-</td>
<td>2,767.7</td>
<td>2,767.7</td>
<td>-</td>
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<tr>
<td>Real Estate</td>
<td>426.5</td>
<td>1,148.5</td>
<td>722.0</td>
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<tr>
<td>Civil Rights &amp; Inclusion</td>
<td>476.9</td>
<td>599.1</td>
<td>122.2</td>
<td>25.6%</td>
</tr>
<tr>
<td>HR &amp; Administration</td>
<td>32,122.7</td>
<td>37,245.9</td>
<td>5,123.3</td>
<td>15.9%</td>
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<tr>
<td>Contracts &amp; Program Operations</td>
<td>-</td>
<td>528.2</td>
<td>528.2</td>
<td>-</td>
</tr>
<tr>
<td>Market Services &amp; Business Controls</td>
<td>525.0</td>
<td>912.0</td>
<td>387.0</td>
<td>73.7%</td>
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<tr>
<td>NY Energy Manager</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Business Development</td>
<td>323.2</td>
<td>485.1</td>
<td>161.9</td>
<td>50.1%</td>
</tr>
<tr>
<td>SVP CES</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Engineering &amp; Construction Management</td>
<td>-</td>
<td>1,200.0</td>
<td>1,200.0</td>
<td>-</td>
</tr>
<tr>
<td>Clean Energy Solutions</td>
<td>848.2</td>
<td>3,125.3</td>
<td>2,277.1</td>
<td>268.5%</td>
</tr>
</tbody>
</table>

**EXHIBIT 5d-A**
<table>
<thead>
<tr>
<th>Category</th>
<th>Before Adjustments</th>
<th>After Adjustments</th>
<th>Change</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operations Headquarters</strong></td>
<td>57,321.1</td>
<td>57,517.7</td>
<td>196.6</td>
<td>0.3%</td>
</tr>
<tr>
<td>Blenheim-Gilboa</td>
<td>22,553.1</td>
<td>21,673.3</td>
<td>(879.8)</td>
<td>(3.9%)</td>
</tr>
<tr>
<td>500 MW</td>
<td>30,418.8</td>
<td>31,589.2</td>
<td>1,170.3</td>
<td>3.8%</td>
</tr>
<tr>
<td>Flynn</td>
<td>8,328.9</td>
<td>11,038.1</td>
<td>2,709.2</td>
<td>32.5%</td>
</tr>
<tr>
<td>SENY</td>
<td>5,054.6</td>
<td>4,290.0</td>
<td>(764.6)</td>
<td>(15.1%)</td>
</tr>
<tr>
<td>SCPP</td>
<td>21,242.5</td>
<td>21,945.6</td>
<td>703.1</td>
<td>3.3%</td>
</tr>
<tr>
<td>Niagara</td>
<td>61,761.8</td>
<td>62,866.1</td>
<td>1,104.3</td>
<td>1.8%</td>
</tr>
<tr>
<td>St. Lawrence</td>
<td>36,504.2</td>
<td>31,901.2</td>
<td>(4,603.0)</td>
<td>(12.6%)</td>
</tr>
<tr>
<td>Small Hydros</td>
<td>5,687.8</td>
<td>6,483.4</td>
<td>795.5</td>
<td>14.0%</td>
</tr>
<tr>
<td>Transmission Lines</td>
<td>56,013.9</td>
<td>64,292.5</td>
<td>8,278.7</td>
<td>14.8%</td>
</tr>
<tr>
<td>Astoria Energy II O&amp;M</td>
<td>1,005.8</td>
<td>1,063.1</td>
<td>57.3</td>
<td>5.7%</td>
</tr>
<tr>
<td><strong>Operations</strong></td>
<td>305,892.4</td>
<td>314,660.1</td>
<td>8,767.7</td>
<td>2.9%</td>
</tr>
<tr>
<td>Astoria II Energy Lease</td>
<td>22,692.0</td>
<td>21,990.0</td>
<td>(702.0)</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>Recharge New York</td>
<td>2,265.5</td>
<td>2,268.6</td>
<td>3.1</td>
<td>0.1%</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>8,696.2</td>
<td>12,284.4</td>
<td>3,588.2</td>
<td>41.3%</td>
</tr>
<tr>
<td>Eliminations &amp; Adjustments</td>
<td>41,535.1</td>
<td>35,743.4</td>
<td>(5,791.7)</td>
<td>(13.9%)</td>
</tr>
<tr>
<td><strong>Total NYPA</strong></td>
<td>507,504.2</td>
<td>519,024.0</td>
<td>11,519.8</td>
<td>2.3%</td>
</tr>
<tr>
<td>Canal Headquarters</td>
<td>21,788.1</td>
<td>22,575.1</td>
<td>787.1</td>
<td>3.6%</td>
</tr>
<tr>
<td>Canal Eastern Division</td>
<td>22,752.8</td>
<td>28,736.2</td>
<td>5,983.4</td>
<td>26.3%</td>
</tr>
<tr>
<td>Canal Western Division</td>
<td>28,091.3</td>
<td>27,651.4</td>
<td>(440.0)</td>
<td>(1.6%)</td>
</tr>
<tr>
<td>NYPA Direct Charge to Canals</td>
<td>7,931.7</td>
<td>5,408.2</td>
<td>(2,523.4)</td>
<td>(31.8%)</td>
</tr>
<tr>
<td>NYPA Direct Assess to Canals</td>
<td>5,646.6</td>
<td>6,656.1</td>
<td>1,009.5</td>
<td>17.9%</td>
</tr>
<tr>
<td><strong>Total Canal Corporation</strong></td>
<td>86,210.5</td>
<td>91,027.1</td>
<td>4,816.6</td>
<td>5.6%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>593,714.7</td>
<td>610,051.1</td>
<td>16,336.4</td>
<td>2.8%</td>
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</tbody>
</table>
### Corporate Headquarters $189.6 M

<table>
<thead>
<tr>
<th>Department</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Headquarters</td>
<td>57.6M</td>
</tr>
<tr>
<td>Clean Energy Solutions</td>
<td>$3.1M</td>
</tr>
<tr>
<td>HR &amp; Administration</td>
<td>$37.2M</td>
</tr>
<tr>
<td>Information Technology</td>
<td>$30.5M</td>
</tr>
<tr>
<td>Corporate Strategy</td>
<td>$3.9M</td>
</tr>
<tr>
<td>Business Services</td>
<td>$20.9M</td>
</tr>
<tr>
<td>Commercial Operations</td>
<td>$7.9M</td>
</tr>
<tr>
<td>Executive Offices</td>
<td>28.5M</td>
</tr>
</tbody>
</table>

### Operations Sites $256.1 M

<table>
<thead>
<tr>
<th>Site</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Hydros</td>
<td>$6.5M</td>
</tr>
<tr>
<td>St. Lawrence</td>
<td>$31.9M</td>
</tr>
<tr>
<td>Niagara</td>
<td>$62.9M</td>
</tr>
<tr>
<td>SCPP</td>
<td>$21.9M</td>
</tr>
<tr>
<td>Flynn</td>
<td>$11.0M</td>
</tr>
<tr>
<td>Zeltmann</td>
<td>$31.6M</td>
</tr>
<tr>
<td>Blenheim-Gilboa</td>
<td>$21.7M</td>
</tr>
<tr>
<td>Transmission</td>
<td>$64.3M</td>
</tr>
</tbody>
</table>

### Canal Corporation $91.0 M

<table>
<thead>
<tr>
<th>Division</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canal Headquarters</td>
<td>$22.6M</td>
</tr>
<tr>
<td>Canal Western Division</td>
<td>$27.8M</td>
</tr>
<tr>
<td>Canal Eastern Division</td>
<td>$28.7M</td>
</tr>
<tr>
<td>NYPA Charges to Canals</td>
<td>$12.1M</td>
</tr>
</tbody>
</table>
NYPA O&M by Cost Element

- Payroll: $183.4M
- Benefits: $76.2M
- Office & Stationary: $25.0M
- Materials: $23.7M
- Fees: $9.4M
- Maint/Repair/Service Contract: $124.6M
- Professional Services: $41.3M

Total: $519.0M
Canal Corporation by Cost Element

- Payroll: $33.3M
- Benefits: $32.2M
- Maint/Repair/Service Contract: $13.0M
- Professional Services: $5.7M
- Office & Stationary: $2.3M
- Materials: $4.3M
- Fees: $0.2M

Total: $91.0M
<table>
<thead>
<tr>
<th>Headquarters*</th>
<th>Operations**</th>
<th>Transmission</th>
<th>Canals Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>862</td>
<td>983</td>
<td>203</td>
<td>482</td>
</tr>
</tbody>
</table>

**Total NYP A Headcount**

2,048

---

*Headquarters* is inclusive Headquarters Headcount of 862 and Research & Development Headcount of 5

*Operations** is inclusive Operations Headcount of 974 and Research & Development Headcount of 9
### Transmission Capital Projects $262.6M

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA1 &amp; MA2 TRANSMISSION LINE UPGRADE</td>
<td>$91.5M</td>
</tr>
<tr>
<td>COMMUNICATIONS BACKBONE</td>
<td>$51.7M</td>
</tr>
<tr>
<td>AC TRANSMISSION LINES</td>
<td>$27.1M</td>
</tr>
<tr>
<td>TRANSMISSION LEM (N/A)</td>
<td>$17.1M</td>
</tr>
<tr>
<td>SENSOR DEPLOYMENT</td>
<td>$14.9M</td>
</tr>
<tr>
<td>All Other Projects</td>
<td>$60.2M</td>
</tr>
</tbody>
</table>

### Niagara Capital Projects $79.1M

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEWISTON PUMP GENER. PLANT LEM</td>
<td>$33.2M</td>
</tr>
<tr>
<td>RM CONTROLS LEM</td>
<td>$12.2M</td>
</tr>
<tr>
<td>NPP FIRE DETECTION SYSTEM</td>
<td>$7.0M</td>
</tr>
<tr>
<td>RM PENSTOCK LEM</td>
<td>$6.2M</td>
</tr>
<tr>
<td>RM MECHANICAL &amp; ELECTRICL LEM</td>
<td>$5.7M</td>
</tr>
<tr>
<td>All Other Projects</td>
<td>$14.8M</td>
</tr>
</tbody>
</table>

### St. Lawrence Capital Projects $25.9M

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACILITIES FOR OFFICE OF PARKS</td>
<td>$5.7M</td>
</tr>
<tr>
<td>LICENSE COMPLIANCE &amp; IMPLEMENTATION</td>
<td>$4.3M</td>
</tr>
<tr>
<td>HATCH COVER DECK SURFACE UPGRADE</td>
<td>$4.1M</td>
</tr>
<tr>
<td>WATER BALL REPLACEMENT</td>
<td>$2.6M</td>
</tr>
<tr>
<td>STL 10 YEAR RELICENCING EVALUATION</td>
<td>$2.6M</td>
</tr>
<tr>
<td>All Other Projects</td>
<td>$6.5M</td>
</tr>
</tbody>
</table>
Blenheim Gilboa Capital Projects $5.2M

- Relicensing and Implementation: $1.1M
- Training and EOC Center: $0.8M
- Blenheim Gilboa Sensor Deployment: $0.8M
- Grahamsville EDTO (LEM) 3rd Party: $0.7M
- Neversink Tunnel Outlet 3rd Party: $0.7M
- All Other Projects: $1.1M

Zeltmann Capital Projects $5.9M

- GSU Transformer Overhaul: $2.5M
- Fuel Oil Suppression System: $1.4M
- Facility Roof System Replacement: $0.9M
- 500 MW Sensor Deployment: $0.4M
- CO Catalyst Replacement (SCPP): $0.3M
- All Other Projects: $0.4M

SCPP Capital Projects $2.3M

- SCPP Sensor Deployment: $1.0M
- HR Ammonia Vaporizer System Upgrade: $0.6M
- HR Inlet Heating System Upgrade: $0.5M
- Gowanus Bulkhead Restoration: $0.1M
- All Other Projects: $0.1M
Flynn Capital Projects $1.0M

- MOOG ACTUATORS REPLACEMENT: $0.8M
- CONTROL SYSTEMS UPGRADE: $0.2M

Small Hydro Capital Projects $2.8M

- VISCHER FERRY RELICENSING: $0.8M
- JARVIS RELICENSING: $0.8M
- CRESCENT RELICENSING: $0.5M
- PHYSICAL SECURITY UPGRADE: $0.4M
- JARVIS BREAKER REPLACEMENT: $0.2M
- All Other Projects: $0.1M

Headquarters Capital Projects $152.5M

- STRATEGIC EV CHARGING STATIONS INSTALLS: $36.8M
- NORTH COUNTRY ZONE D ENERGY STORAGE: $13.8M
- DATA ANALYTICS: $10.1M
- MINOR ADDITIONS GENERAL PLANT: $9.9M
- CUSTOMER DIGITAL EXPERIENCE SOFTWARE: $9.2M
- All Other Projects: $73.1M
## Canal Corporation Capital Projects $69.9M

<table>
<thead>
<tr>
<th>Project</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empire State Trailway</td>
<td>$12.2M</td>
</tr>
<tr>
<td>Embankement Rehab Program</td>
<td>$4.5M</td>
</tr>
<tr>
<td>Lock O-7 Rehab</td>
<td>$4.4M</td>
</tr>
<tr>
<td>Rochester West River Wall</td>
<td>$3.5M</td>
</tr>
<tr>
<td>DeRuyter Reservoir Dam Rehab</td>
<td>$3.4M</td>
</tr>
<tr>
<td>All Other Projects</td>
<td>$41.9M</td>
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</tbody>
</table>
### Energy Services Capital Projects $257.2M

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>SENY GOVERNMENTAL SERVICES PROGRAM</td>
<td>$175.6M</td>
</tr>
<tr>
<td>ENERGY SERVICES PROGRAM</td>
<td>$79.4M</td>
</tr>
<tr>
<td>MUNICIPAL ELECTRIC VEHICLES</td>
<td>$1.0M</td>
</tr>
<tr>
<td>POCR REBATE PROGRAM (POCR FUNDED)</td>
<td>$0.8M</td>
</tr>
<tr>
<td>OTHER POCR PROGRAMS (POCR FUNDED)</td>
<td>$0.4M</td>
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</tbody>
</table>
2020 – 2023
Approved Budget and Financial Plan

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In compliance with 2 NYCRR Part 203
Background and Mission of the Power Authority of the State of New York

The mission of the Power Authority of the State of New York (“NYPAP” or the “Authority”) is to power the economic growth and competitiveness of New York State by providing customers with low-cost, clean, reliable power and the innovative energy infrastructure and services they value. The Authority’s financial performance goal is to maintain a strong financial position in order to have the resources necessary to achieve its mission.

The Authority generates, transmits, purchases and sells electric power and energy as authorized by law. The Authority’s customers include municipal and rural electric cooperatives located throughout New York State, investor-owned utilities, high load factor industrial customers, commercial/industrial and not-for-profit businesses, and various public corporations located in Southeastern New York within the metropolitan area of New York City (“SENY governmental customers”), certain neighboring states, public entities and Community Choice Aggregation Communities throughout New York State.

To provide electric service, the Authority owns and operates five major generating facilities, eleven small gas-fired electric generating facilities, and four small hydroelectric facilities in addition to a number of transmission lines, including major 765-kV and 345-kV transmission facilities. The Authority’s five major generating facilities consist of two large hydroelectric facilities (“Niagara” and “St. Lawrence-FDR”), a large pumped-storage hydroelectric facility (“Blenheim-Gilboa”), the Eugene W. Zeitmann Power Project combined cycle electric generating plant located in Queens, New York (“Zeitmann”) and the Richard M. Flynn combined cycle plant located on Long Island (“Flynn”).

As a component of NYPAP’s strategic plan, efforts to modernize NYPAP’s generation and transmission infrastructure are being developed to increase flexibility and resiliency, to serve customers’ needs in an increasingly dynamic energy marketplace, and to support the State’s clean energy goals.

To maintain its position as a low cost provider of power in a changing environment, the Authority has undertaken and continues to carry out a multifaceted program, including: (a) the upgrade and relicensing of the Niagara, St. Lawrence-FDR and Blenheim-Gilboa projects; (b) long-term supplemental electricity supply agreements with the SENY governmental customers; (c) construction and operation of the Zeitmann combined-cycle electric generating plant located at the Authority’s Poletti plant site; (d) a long-term electricity supply contract with Astoria Generating LLC for the purchase of the output of a 550-MW power plant in Astoria, Queens (“Astoria Energy II”); (e) a firm transmission capacity purchase agreement with Hudson Transmission Partners, LLC (“HTP”) for a portion of the output of the 660 MW, seven mile, underground and underwater transmission line connecting into the PJM ISO; (f) refinancing outstanding callable bonds to lower the overall cost of debt; and (g) implementation of an enterprise-wide and energy/fuel risk management program.

The Authority owns and operates the Robert Moses Niagara Power Plant (RMNPP) providing up to 2.6 million kilowatts of clean electricity generated by two facilities, the Robert Moses Power Plant (RMPP) and the Lewiston Pump Generation Plant (LPGP). Because a majority of the RMPP equipment is nearly 60 years old, the Authority is undertaking a Life Extension & Modernization (LEM) program for it and its associated infrastructure. The program is focused on modernizing the 13 units at RMPP, digitization of controls and providing for security and reliability of the RMNPP and its integrated infrastructure.

The Authority provides customers with wide-ranging on-site energy solutions including energy data analytics, planning, operations and the development of capital projects such as energy efficiency, distributed generation, advanced technologies and renewables. The Authority also has the responsibility for implementation of: (a) the Governor’s Executive Order No. 88, known as “BuildSmart NY” to improve energy efficiency at State owned and managed buildings; (b) the “Five Cities Energy Efficiency Implementation Plans” (the cities of Albany, Buffalo, Rochester, Syracuse and Yonkers) to reduce overall energy costs and consumption, strengthen the reliability of energy infrastructure, create jobs in local clean energy industries and contribute to a cleaner environment; and (c) the “K-Solar” program to reduce schools’ energy costs through the use of solar power. From January 2013 through September 2019, NYPAP has provided approximately $619.3 million in financing for energy efficiency projects covered by Executive Order 88. Overall financing from January 2013 through September 2019 for energy efficiency projects for all customers (including EO88 facilities) amounts to $1.45 billion.

To achieve its goal of promoting clean energy and efficiency, NYPAP implements energy services for the benefit of its power supply customers and for various other public entities throughout the State. Under these programs, the Authority finances the installation of energy saving measures and equipment, which are owned by the customers and public entities upon their installation and which focus primarily on energy efficiency, renewables, resiliency and sustainability. These programs provide funding for, among other things, audits, retro-commissioning, energy master plans, high
efficiency lighting technology, high efficiency heating, ventilating and air conditioning systems and controls, boiler and chiller upgrades, steam traps, thermal storage, building envelope upgrades, combined heat and power, microgrids, solar photovoltaics, fuel cells, water/waste water systems, replacement of inefficient refrigerators, distributed generation technologies and emerging energy and utility technologies. The Authority has authorized, as of September 2019, the expenditure of an aggregate of $5.1 billion on these programs.

Effective January 1, 2017, the New York State Canal Corporation (the “Canal Corporation”) became a subsidiary of the Authority, and the Authority assumed certain powers and duties relating to the Canal System (as defined below) to be exercised through the Canal Corporation. The Canal Corporation is responsible for a 524-mile canal system consisting of the Erie, Champlain, Oswego, and Cayuga-Seneca canals (the “Canal System”). See “(c) Canal Corporation” for more information.

In 2019, the Authority received ISO 55001 certification for asset management enterprise wide. Asset management is one of the critical components of the Authority’ business strategy. ISO 55001 is an asset management system standard, the main objective of which is to help organizations manage the lifecycle of assets more effectively. By implementing ISO 55001, organizations will have better control over daily activities, achieve higher returns with their assets, and reduce the total cost of risk.

(a) NYPAr's Relationship with New York State Government

The Authority is a corporate municipal instrumentality and political subdivision of the State of New York (the “State”) created in 1931 by Title 1 of Article 5 of the Public Authorities Law, Chapter 43-A of the Consolidated Laws of the State, as amended from time to time (the “Act”), to help provide a continuous and adequate supply of dependable electric power and energy to the people of the State.

The Authority’s operations are overseen by a Board of Trustees. NYPA’s Trustees are appointed by the Governor of the State, with the advice and consent of the State Senate. The Authority is a fiscally independent public corporation whose operations are not supported by state tax revenues. NYPA generally finances construction of new projects through a combination of internally generated funds and the sale of bonds and notes to investors, and pays related debt service with revenues from the generation and transmission of electricity. Income of the Authority and properties acquired by it for its projects are exempt from taxation.

(b) Budget Process

NYPA operates in a capital-intensive industry where operating revenues and expenses are significant and highly variable due to the volatility of electricity prices and fuel costs. NYPA’s operations are not only subject to electric and fuel cost volatility, but also changing water flows that have a direct effect on hydroelectric generation levels. This 2020-2023 Approved Budget and Financial Plan (“Approved Four-Year Plan”) relies on data and projections developed through the following timeframe:

- During July – November 2019, developed preliminary forecasts of electric prices (both energy and capacity), ancillary services revenue and expenses, and fuel expenses; NYPA customer power and energy use; NYPA customer rates; generation levels at NYPA power projects reflecting scheduled outages; and purchased energy & power requirements and sources.
- During July – November 2019, developed preliminary operations and maintenance, and capital expense targets.
- November 2019, posted Proposed Four-Year Plan for public inspection at five convenient locations and on NYPA’s internet website.
- During October – November 2019, updated and finalized all forecasts and cost estimates.
- During November – December 2019, integrated above data to produce the 2020-2023 Final Budget and Financial Plan.
- Seek authorization of NYPA’s Trustees to approve the 2020-2023 Final Budget and Financial Plan at their meeting currently scheduled for December 11, 2019.
- Submit the approved 2020-2023 Budget and Financial Plan to the State Comptroller’s Office; and make the approved document available for public inspection at five convenient locations and on NYPA’s internet website.
### NYPA’s Four-Year Projected Income Statements
*(In $ Millions)*

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<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<tr>
<td><strong>NYPA</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Operating Revenue</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Customer Revenue</td>
<td>$1,786.5</td>
<td>$1,835.2</td>
<td>$1,840.4</td>
<td>$1,902.4</td>
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<td>Market-Based Power Sales</td>
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<td>543.7</td>
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<td>Ancillary Service Revenue</td>
<td>45.4</td>
<td>47.8</td>
<td>49.5</td>
<td>53.4</td>
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<tr>
<td>NTAC and Other</td>
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<td>211.4</td>
<td>237.2</td>
<td>243.4</td>
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<td>Non-Utility Revenue</td>
<td>27.6</td>
<td>34.9</td>
<td>37.6</td>
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<td><strong>Operating Revenue Total</strong></td>
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<td>2,673.0</td>
<td>2,686.8</td>
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<tr>
<td><strong>Operating Expense</strong></td>
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<tr>
<td>Purchase Power</td>
<td>(612.4)</td>
<td>(632.7)</td>
<td>(622.4)</td>
<td>(672.1)</td>
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<td>Ancillary Service Expense</td>
<td>(58.3)</td>
<td>(58.2)</td>
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<td>(58.4)</td>
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<tr>
<td>Fuel Consumed</td>
<td>(158.7)</td>
<td>(163.7)</td>
<td>(166.4)</td>
<td>(183.1)</td>
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<td>Wheeling</td>
<td>(644.1)</td>
<td>(646.4)</td>
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<td>(648.4)</td>
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<tr>
<td>Operations &amp; Maintenance</td>
<td>(496.9)</td>
<td>(501.0)</td>
<td>(520.4)</td>
<td>(541.0)</td>
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<tr>
<td>Other Expense</td>
<td>(119.6)</td>
<td>(141.4)</td>
<td>(129.6)</td>
<td>(129.7)</td>
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<tr>
<td><strong>Operating Expense Total</strong></td>
<td>(2,090.0)</td>
<td>(2,143.4)</td>
<td>(2,144.8)</td>
<td>(2,232.7)</td>
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<tr>
<td><strong>EBIDA</strong></td>
<td>487.7</td>
<td>529.6</td>
<td>542.0</td>
<td>560.5</td>
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<tr>
<td><strong>Compounded Annual Growth Rate (CAGR)</strong></td>
<td>8.6%</td>
<td>5.4%</td>
<td>4.8%</td>
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<tr>
<td><strong>Non-Operating Income &amp; Expenses</strong></td>
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<td></td>
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<tr>
<td>Depreciation &amp; Amortization</td>
<td>(234.1)</td>
<td>(246.6)</td>
<td>(250.1)</td>
<td>(259.5)</td>
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<tr>
<td>Investment and Other Income</td>
<td>28.7</td>
<td>27.8</td>
<td>28.0</td>
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<tr>
<td>Mark to Market Adjustments</td>
<td>(0.4)</td>
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<tr>
<td>Interest &amp; Other Expenses</td>
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<td>(120.5)</td>
<td>(122.9)</td>
<td>(119.7)</td>
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<tr>
<td><strong>Non-Operating Income &amp; Expenses Total</strong></td>
<td>(326.7)</td>
<td>(339.2)</td>
<td>(345.0)</td>
<td>(348.8)</td>
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<tr>
<td><strong>NYPA NET INCOME</strong></td>
<td>$161.0</td>
<td>$190.4</td>
<td>$197.0</td>
<td>$211.7</td>
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<tr>
<td><strong>CANALS</strong></td>
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<td></td>
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<tr>
<td>Operating Revenue</td>
<td>$2.5</td>
<td>$2.5</td>
<td>$2.5</td>
<td>$2.5</td>
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<tr>
<td>Operating Expense</td>
<td>(93.6)</td>
<td>(93.6)</td>
<td>(93.6)</td>
<td>(93.6)</td>
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<tr>
<td><strong>EBIDA</strong></td>
<td>(91.1)</td>
<td>(91.1)</td>
<td>(91.1)</td>
<td>(91.1)</td>
</tr>
<tr>
<td><strong>Non-Operating Income &amp; Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(28.4)</td>
<td>(28.8)</td>
<td>(26.6)</td>
<td>(26.3)</td>
</tr>
<tr>
<td><strong>CANALS NET INCOME</strong></td>
<td>(119.5)</td>
<td>(119.9)</td>
<td>(117.7)</td>
<td>(117.4)</td>
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<tr>
<td><strong>TOTAL NET INCOME</strong></td>
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<td></td>
<td></td>
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<tr>
<td><em>(NYPA &amp; CANALS)</em></td>
<td>$41.5</td>
<td>$70.5</td>
<td>$79.3</td>
<td>$94.3</td>
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<tr>
<td></td>
<td>2020</td>
<td>2021</td>
<td>2022</td>
<td>2023</td>
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<td>----------------------</td>
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<tr>
<td>Merchant Margin</td>
<td>$335.4</td>
<td>$363.0</td>
<td>$328.0</td>
<td>$347.2</td>
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<tr>
<td>Customer Margin</td>
<td>551.6</td>
<td>574.9</td>
<td>591.1</td>
<td>590.9</td>
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<tr>
<td>Transmission Margin</td>
<td>171.2</td>
<td>199.4</td>
<td>234.1</td>
<td>252.2</td>
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<tr>
<td>Other Margin</td>
<td>46.0</td>
<td>34.7</td>
<td>38.8</td>
<td>40.9</td>
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<tr>
<td>TOTAL MARGIN</td>
<td>1,104.2</td>
<td>1,172.0</td>
<td>1,192.0</td>
<td>1,231.2</td>
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<tr>
<td>Operations &amp;</td>
<td>(496.9)</td>
<td>(501.0)</td>
<td>(520.4)</td>
<td>(541.0)</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
<td></td>
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<tr>
<td>Other Expenses</td>
<td>(119.6)</td>
<td>(141.4)</td>
<td>(129.6)</td>
<td>(129.7)</td>
</tr>
<tr>
<td>EBIDA</td>
<td>$487.7</td>
<td>$529.6</td>
<td>$542.0</td>
<td>$560.5</td>
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</table>
2020 Budget – Sources
(In $ Millions)

Customer Revenues, $1,786.5, 69%

NYISO Market Revenues, $763.6, 29%

Investment Income, $28.3, 1%

Other Revenue, $30.1, 1%

2020 Budget – Uses
(In $ Millions)

Purchased Power, $670.7, 26%

Wheeling Expenses, $644.1, 25%

Fuel Oil and Gas, $158.7, 6%

Depreciation and Amortization, $262.5, 10%

Other Expenses, $119.6, 5%

*O&M Expenses, $590.0, 23%

Interest Expense, $120.9, 5%

* Reflects NYPA's base O&M expenses plus administrative expenses less the Allocation to Capital.
# NYPA’s STATEMENTS OF CASH FLOWS

*(In $ Millions)*

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<tbody>
<tr>
<td>Sale of Power, Use of Transmission Lines, Wheeling Charges and other receipts</td>
<td>$2,670.5</td>
<td>$2,398.8</td>
<td>$2,561.3</td>
<td>$2,663.7</td>
<td>$2,685.3</td>
<td>$2,800.2</td>
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<tr>
<td>Earnings on Investments and Time Deposits</td>
<td>19.2</td>
<td>28.9</td>
<td>28.7</td>
<td>27.8</td>
<td>28.0</td>
<td>30.4</td>
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<tr>
<td><strong>Total Revenues</strong></td>
<td>2,689.7</td>
<td>2,427.7</td>
<td>2,590.0</td>
<td>2,691.5</td>
<td>2,713.3</td>
<td>2,830.6</td>
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<tbody>
<tr>
<td>Operation and Maintenance, including Transmission of Electricity by others, Purchased Power and Fuel Purchases</td>
<td>(2,464.1)</td>
<td>(2,182.7)</td>
<td>(2,291.3)</td>
<td>(2,348.7)</td>
<td>(2,351.6)</td>
<td>(2,442.7)</td>
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<tbody>
<tr>
<td>Interest on Bonds and Notes</td>
<td>(53.5)</td>
<td>(48.0)</td>
<td>(49.5)</td>
<td>(54.2)</td>
<td>(62.0)</td>
<td>(64.3)</td>
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<tr>
<td>Bonds and Notes Retired</td>
<td>(61.7)</td>
<td>(64.1)</td>
<td>(186.7)</td>
<td>(16.5)</td>
<td>(42.9)</td>
<td>(28.0)</td>
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<td><strong>Total Debt Service</strong></td>
<td>(115.2)</td>
<td>(112.1)</td>
<td>(236.2)</td>
<td>(70.7)</td>
<td>(104.9)</td>
<td>(92.3)</td>
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<th>Total Requirements</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<td><strong>Net Operations</strong></td>
<td>110.4</td>
<td>132.9</td>
<td>62.5</td>
<td>272.1</td>
<td>256.8</td>
<td>295.6</td>
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</thead>
<tbody>
<tr>
<td>Sale of Bonds, Promissory Notes &amp; Commercial Paper</td>
<td>102.8</td>
<td>205.7</td>
<td>505.3</td>
<td>248.2</td>
<td>196.5</td>
<td>137.9</td>
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<td>Less : Repayments</td>
<td>(62.3)</td>
<td>0.0</td>
<td>(204.0)</td>
<td>(98.0)</td>
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<td>Earnings on Construction Funds</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td>DSM Recovery Receipts</td>
<td>106.6</td>
<td>169.8</td>
<td>325.8</td>
<td>192.5</td>
<td>281.8</td>
<td>413.7</td>
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<td>Temporary Asset Transfer Return from NYS</td>
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<td>48.5</td>
<td>43.0</td>
<td>43.0</td>
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<td>Other</td>
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<td><strong>Total Capital Receipts</strong></td>
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<td>424.0</td>
<td>670.1</td>
<td>385.7</td>
<td>521.3</td>
<td>551.6</td>
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<td>Additions to Electric Plant in Service and Construction Work in Progress, and Other costs</td>
<td>(460.3)</td>
<td>(772.2)</td>
<td>(864.4)</td>
<td>(996.3)</td>
<td>(880.5)</td>
<td>(713.4)</td>
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<td>Construction Funds - Net Transfer</td>
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<td><strong>Total Capital Additions &amp; Refunds</strong></td>
<td>(460.3)</td>
<td>(772.2)</td>
<td>(864.4)</td>
<td>(996.3)</td>
<td>(880.5)</td>
<td>(713.4)</td>
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<th>Net Capital</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<td>(270.2)</td>
<td>(348.2)</td>
<td>(194.3)</td>
<td>(610.6)</td>
<td>(359.2)</td>
<td>(161.8)</td>
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<table>
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<th>Net Increase/(Decrease)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<tr>
<td>($159.8)</td>
<td>($215.3)</td>
<td>($131.8)</td>
<td>($338.5)</td>
<td>($102.4)</td>
<td>$133.8</td>
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</tbody>
</table>
(c) Budget Assumptions

NYISO Revenue and Expenses

Based on scheduled customer power needs and available electricity generated by NYPA’s operating assets, the Authority buys and sells capacity and energy through markets operated by the New York Independent System Operator ("NYISO"). Various NYISO purchased power charges in combination with generation related fuel expenses comprise a large portion of NYPA's operating expenses. A significant amount of the Authority’s revenues result from sales of the Authority’s generation into the NYISO market for which the energy revenues are projected based on available forward price curves while the capacity revenues are estimated using the NYISO demand curve methodology.

Customer and Project Revenue

The customers served by the Authority and the rates paid by such customers vary with the NYPA Power Programs designated to serve such loads. These customers are served under contracts and tariffs approved by the Trustees.

St. Lawrence-FDR and Niagara Customers

Power and energy from the St. Lawrence-FDR and Niagara hydroelectric facilities are sold under contract to municipal electric systems, rural electric cooperatives, industrial and other business customers, certain public bodies, investor-owned utilities, and out-of-state customers, with the balance sold into the NYISO market.

The charges for firm and/or firm peaking power and associated energy sold by the Authority, as applicable, to the fifty-one municipal electric systems and rural electric cooperatives in New York State; two public transportation agencies; three investor-owned utilities for the benefit of rural and domestic customers; and seven out-of-state public customers have been established on the basis of the cost to serve these loads. This Approved Four-Year Plan models Trustee-approved rate changes for customers as well as prospective rate changes.

Niagara’s expansion and replacement power industrial customers and St. Lawrence-FDR’s industrial customers are allocated over 35% of the firm contract demand of the plants. Sale of expansion and replacement power historically had been handled on a sale-for-resale basis through National Grid and New York State Electric and Gas. However, the direct sale of low-cost hydro power to these customers commenced July 1, 2013. As a result, NYPA is now the load-serving entity for these transactions.

Legislation enacted in March 2011, effective July 2012, created a new economic development power program, the ReCharge New York Power Program ("RNYPP"), to replace two other economic development programs. RNYPP is a permanent power program administered by the Authority and the Economic Development Power Allocation Board ("EDPAB"). The RNYPP utilizes up to 455 MW of hydropower from the Authority’s Niagara and St. Lawrence-FDR projects combined with up to 455 MW of other power procured by the Authority from other sources. The 910 MW of power is available for allocations to eligible new and existing businesses and not-for-profit corporations under contracts of up to seven years. The RNYPP legislation also authorizes the Authority, as deemed feasible and advisable by the Trustees, to provide annual funding of $100 million for the first three years following withdrawal of the hydropower from the rural and domestic customers, then $70 million for the fourth year, $50 million for the fifth year, and $30 million each year thereafter, for the purpose of funding a residential consumer discount program for those customers that had previously received hydropower. Revenues earned from the sale of unused RNYPP power into the wholesale market may be used to offset the cost of these residential discounts. The Authority’s Trustees have authorized the release of a total $564 million for the period from August 2011 to December 2019 in support this residential discount program. The Authority supplemented the market revenues used to fund the residential discount program with internal funds, totaling cumulatively $72 million from August 2011 through June 30, 2019.

In March 2019, the Trustees were requested to approve a seven-year extension of an agreement for the sale of firm hydroelectric power and energy from the St. Lawrence-FDR project to the Aluminum Company of America ("Alcoa") at its West Plant facilities. The existing contract with Alcoa, for an aggregate of 245 MW, has been executed effective October 1, 2015 through March 31, 2019, replacing prior long-term contracts. The contract extension provides for monthly Base Rate adjustments based upon the price of aluminum on the London Metal Exchange and contains provisions for employment (450 jobs) and capital ($14 million) commitments. Changes from the existing contract include: a reduced allocation of 240 MW, with the additional 5 MW being allocated to Arconic, a newly formed business independent of Alcoa, sold under a separate power sale agreement; a Monthly CES charge relating to Zero Emission Credits (ZEC) and Renewable Energy Credits (REC) that NYPA purchases which are attributable to Alcoa’s load. The
contract specifies a sharing mechanism for the CES charges between Alcoa, New York State and NYPA, whereby Alcoa’s share increases as the aluminum price increases.

The Authority estimates that the total costs associated with the relicensing of the St. Lawrence-FDR Project in 2003 for a period of 50 years will be approximately $210 million, of which approximately $199.4 million has already been spent as of June 30, 2019. These total costs could increase in the future as a result of authorities reserved by FERC in the license for the St. Lawrence-FDR Project issued in 2003. The Authority is collecting in its rates for the sale of St. Lawrence-FDR power amounts necessary to fund such relicensing costs.

Chapter 545 of the laws of 2014 enacted the “Northern New York Power Proceeds Act” (“NNYPPA”). The NNYPPA authorizes the Authority, as deemed feasible and advisable by the Trustees, to deposit net earnings from the sale of unallocated St. Lawrence County Economic Development Power (“SLCEDP”) by the Authority in the wholesale energy market into an account known as the Northern New York Economic Development Fund (“NNYED Fund”) administered by the Authority, and to make awards to eligible applicants that propose eligible projects that satisfy applicable criteria. The NNYPPA established a five-member allocation board appointed by the Governor to review applications seeking NNYED Fund benefits and to make recommendations to the Authority concerning benefits awards.

SLCEDP consists of up to 20 MW of hydropower from the Authority’s St. Lawrence-FDR Power Project which the Authority has made available for sale to the Town of Massena Electric Department (“MED”) for MED to sub-allocate for economic development purposes in accordance with a contract between the parties entered into in 2012 (the “Authority-MED Contact”). The NNYPPA defines “net earnings” as the aggregate excess of revenues received by the Authority from the sale of energy associated with SLCEDP sold by the Authority in the wholesale energy market over what revenues would have been received had such energy been sold to MED on a firm basis under the terms of the Authority-MED Contract. For the first 5 years after enactment, the amount of SLCEDP the Authority could use to generate net earnings may not exceed the lesser of 20 MW or the amount of SLCEDP that has not been allocated by the Authority pursuant to the Authority-MED contract. Thereafter, the amount of SLCEDP that the Authority could use for such purpose may not exceed the lesser of 10 MW or the amount of SLCEDP that has not been allocated. The Authority’s estimates of payments from the Authority to the NNYED Fund have been incorporated into this Approved Four-Year Plan.

The Western New York Power Proceeds Act (“WNYPPA”), which was enacted on March 30, 2012, authorizes the Authority to deposit net earnings from the sale of unused Expansion Power and Replacement Power from the Authority’s Niagara project into the Western New York Economic Development Fund (“WNY Fund”) as deemed feasible and advisable by the Authority’s Trustees. “Net earnings” are defined as any excess revenue earned from such power sold into the wholesale market over the revenue that would have been received had the power been sold at the Expansion Power and Replacement Power rates. Proceeds from the WNY Fund may be used to support eligible projects undertaken within a 30-mile radius of the Niagara project that qualify under the applicable criteria. The WNYPPA established a five-member allocation board appointed by the Governor. The Authority’s estimates of payments from the Authority to the WNY Fund have been incorporated into this Approved Four-Year Plan.
SENY Governmental Customers

Various municipalities, school districts and public agencies in New York City and Westchester County are served by the Authority’s combined cycle Zeltmann plant, the four small hydroelectric plants, the contracted output of the Astoria Energy II plant, and capacity and energy purchased by the Authority in the NYISO markets. Sales into the NYISO of energy generated by these resources, grandfathered transmission rights, and historic fixed priced transmission rights offset the cost of the energy purchased.

In 2018 and 2019, the Authority executed new supplemental long-term electricity supply agreements (2018 LTAs) with its eleven NYC Governmental Customers, including the Metropolitan Transportation Authority, the City of New York, the Port Authority of New York and New Jersey (Port Authority), the New York City Housing Authority, and the New York State Office of General Services.

Under the Supplemental LTAs, the NYC Governmental Customers agreed to purchase their electricity from the Authority through December 31, 2027, with the NYC Governmental Customers having the right to terminate at any time upon at least twelve months’ notice. Each of the Authority and the NYC Governmental Customers may also terminate effective December 31, 2022 upon at least six months’ notice. Under the Supplemental LTAs, fixed costs were set for each customer and are subject to renegotiation after five years. Variable costs, including fuel, purchased power and NYISO related costs, will be passed through to each customer by an energy charge adjustment.

The Authority’s other Southeastern New York (SENY) Governmental Customers are Westchester County and numerous municipalities, school districts, and other public agencies located in Westchester County (collectively, the “Westchester Governmental Customers”). The Authority has entered into a supplemental electricity supply agreement with all 103 Westchester Governmental Customers. Among other things, under the agreement, an energy charge adjustment mechanism is applicable, and customers are allowed to partially terminate service from the Authority on at least two months’ notice prior to the start of the NYISO capability periods. Full termination is allowed on at least one year’s notice, effective no sooner than January 1 following the one-year notice.

Blenheim-Gilboa Customers

The Blenheim-Gilboa project currently operates as a merchant plant, with capacity and energy output sold into the NYISO market. Prior to 2018 and signing of the new LTAs, the NYC governmental customers received a 250 MW allocation of firm capacity and associated energy revenues. The plant’s capacity can be used to meet the requirements of some of the Authority’s other business and governmental customers and/or sold in the NYISO market. The current forecast assumes Blenheim-Gilboa will operate as a merchant plant for the upcoming four years.

Small Clean Power Plants (“SCPPs”)

In the summer of 2001, the Authority placed in operation ten 44-MW natural-gas-fueled SCPPs in New York City and one on Long Island, to address a potential local reliability deficiency in the New York City metropolitan area and its potential impact on statewide reliability. As a result of the settlement of litigation relating to certain of the SCPPs, the Authority has agreed under the settlement agreement to cease operations at the Vernon location, which houses two units, under certain conditions and if the Mayor of New York City directs such cessation. No such cessation has occurred. The plant at the Vernon location is assumed to be operating during the forecast period pursuant to the terms of an agreement entered into at the time of construction.

For this Approved Four-Year Plan, it is assumed that the capacity of the SCPPs may be used by the Authority to meet its customers’ capacity requirements, sold to other users via bilateral arrangements or sold into the NYISO capacity auctions. NYPA sells the energy produced by the SCPPs into the NYISO energy markets.

Flynn

The Flynn project currently operates as a merchant plant, with capacity and energy output sold into the NYISO market. The forecast assumes Flynn operate as a merchant plant for the upcoming four years.
Transmission Projects

The Authority owns approximately 1,400 circuit miles of high voltage transmission lines, and associated substations operating at voltages of 115kV, 230kV, 345kV, and 765kV. The Authority’s Backbone Transmission System consists of a large subset of these transmission facilities, with major circuits such as:

**765kV**
- MSU1 (Marcy-Massena)
- MSC-7040 (Massena-Chateauguay)

**345kV**
- UE1-7 (Marcy-Edic)
- UNS-18 (Marcy-New Scotland)
- VU19 (Volney-Marcy)
- NR-2 (Niagara-Rochester)
- NS-1 (Niagara-Somersset)
- Y-49 (Long Island Sound Cable)
- Q-35L&M (Queens-Manhattan)

**230kV**
- MA/1/MA-2 (Moses-Adirondack)
- MMS-1/MMS-2 (Moses-Massena)
- MW-1/MW-2 (Moses-Willis)

Since the formation of the NYISO in November 1999, cost recovery for the Authority’s provision of transmission service over its facilities has been governed by the NYISO tariff which included an annual transmission revenue requirement (“TRR”) for NYPA of $165.4 million. The Authority receives cost recovery through the NYISO tariff mechanism known as the NYPA Transmission Adjustment Charge (“NTAC”), recovering NYPA Backbone Transmission System costs on a statewide basis after accounting for NYPA’s revenues received from pre-existing customer transmission service contracts, a Transmission Service Charge assessed on customers in NYPA’s upstate load zone, and other sources.

In July 2012, the Authority filed for its first TRR increase with FERC. The Authority’s filing resulted in an uncontested settlement approved by FERC for a new, $175.5 million TRR applicable to the Authority, effective August 1, 2012. The increased TRR is necessary to cover increased operating and maintenance expenses of NYPA’s bulk transmission system, as well as to make necessary capital improvements.

In January 2016, the Authority filed for a transmission revenue requirement formula rate with FERC. In March 2016, FERC accepted the filing and made it effective April 1, 2016, as requested, subject to hearing and settlement judge procedures. The Authority requested a formula rate to more efficiently recover its increased capital and operating expenditures needed to maintain the reliability of its transmission system. The Authority filed an unopposed Offer of Settlement on September 30, 2016 that fully resolves the issues raised by interested parties in settlement negotiations concerning the formula rate. Separately, the annual TRR under the formula of $190.0 million initially made effective April 1 was updated on July 1, 2016 to $198.2 million pursuant to the formula rate annual update process. Effective July 1, 2019, the Transmission Revenue Requirement is $237.7 million, including the revenue requirement for the Marcy South Series Compensation project. Annual updates commensurate with projected costs are assumed to continue throughout the forecast period.

The Authority is moving forward with its plans to replace a major section of the Moses Adirondack Line, one of the Authority’s Backbone Transmission System lines. The replacement project covers 78 miles of 230 kV transmission line from Massena to the town of Croghan in Lewis County. The project includes the replacement of obsolete wood pole structures with higher, steel pole structures, as well as replacement of failing conductors with new conductors and insulators. The line will operate at its current 230 kV level, but the conductors and insulators will accommodate future 345 kV operation.

In July 2017, the Authority received authorization under the NYISO tariff to include the costs of this replacement project in its NTAC mechanism for cost recovery of the Authority’s transmission system costs, which means that the costs will be allocated to all ratepayers in the State. On September 21, 2018, the Public Service Commission determined that the Authority’s April 2018 Article VII application was complete. Currently, the Authority is negotiating Article VII
Certificate Conditions, Joint Proposal of Settlement, the Environmental Management and Construction Plan, Army Corps of Engineer approvals, and exhibits and appendices with regulatory agencies. The Authority estimates a project cost of $484 million through project completion. Construction is expected to begin in 2020 and be completed in 2023. This Approved Four-Year Plan includes revenues and costs associated with the Moses Adirondack project.

On August 1, 2014, the Public Policy Transmission Planning Process administered by the NYISO invited solicitations to address the AC Transmission Public Policy Need (“AC Proceeding”) for new transmission lines to relieve the congested Central East and UPNY/SENY transmission interfaces. In June 2018, the Authority and North America Transmission (“NAT”) entered into a Participation Agreement which granted the Authority the option to secure an ownership interest of up to 37.5% in the projects that they jointly proposed. In April 2019, the NYISO board selected the project proposed by LS Power Grid New York, LLC (“LS Power”) (formerly known as NAT) and the Authority for Segment A (also known as the Marcy to New Scotland Upgrade Project) to increase transfer capability from central to eastern New York.

The NYISO estimated the total cost of the Segment A project to be about $750 million (in 2018 dollars, including 30 percent contingency). In August 2019, LS Power and the Authority submitted an Article VII application to the PSC and the Authority filed an incentive to FERC under Order 679. If the PSC authorizes the project, construction of the project would begin, which is targeted for late 2020. Ultimately, the transmission lines to be rebuilt as part of the Segment A project are expected to be energized as part of the New York electrical system by the end of 2023.

In May 2019, the Authority’s Trustees approved capital expenditures of approximately $28 million for the Segment A project. In consideration of maintaining the purchase option under the Participation Agreement, the Authority will fund 33% of the Segment A project development costs until such time as the Authority decides to exercise its 37.5% purchase option.

The Authority is in continuing discussions with LS Power and the NYISO with respect to the development of the project. The Authority expects its costs with respect to the development of the Segment A project will be recovered through FERC’s cost-recovery mechanisms. The projects proposed by NYPA and LS Power include the construction of over 300 miles of new 345kV and 115kV transmission lines and four new substations. These projects will be presented to the NYISO Board of Directors for approval and are recommended to be placed in service by 2023. Given that approvals are required before the proposals may proceed, this Approved Four-Year Plan include revenues and costs associated with the AC Proceeding projects.

Hudson Transmission Project
In 2011, the Trustees authorized Authority staff to enter into an agreement with Hudson Transmission Partners, LLC (“HTP”) for the purchase of capacity to meet the long-term requirements of the Authority’s NYC Governmental Customers and to improve the transmission infrastructure serving New York City through the transmission rights associated with HTP’s transmission line (the “Line”) extending from Bergen County, New Jersey in the PJM Interconnection, LLC (PJM) transmission system, to Consolidated Edison Company of New York, Inc.’s (“Con Edison”) West 49th Street substation in the NYISO. Specifically, the Authority executed a Firm Transmission Capacity Purchase Agreement (“FTCPA”) with HTP under which the Authority gained the entitlement to 75% of the Line’s 660 MW capacity, or 495 MW, for 20 years. The Authority’s capacity payment obligations under the FTCPA began upon the Line’s commencement of commercial operation, which occurred on June 3, 2013. Also, upon commercial operation, the FTCPA obligates the Authority to reimburse HTP for the cost of interconnection and transmission upgrades in New York and New Jersey associated with the Line and to pay for all remaining upgrade costs as they are incurred. Such interconnection and transmission upgrades have been completed at a total cost to the Authority of $334.9 million. The Authority’s obligations under the FTCPA also include payment of the Regional Transmission Enhancement Plan (“RTEP”) charges allocated to HTP in accordance with the PJM tariff. Such RTEP costs are significant and are discussed below.

It is estimated that the revenues derived from the Authority’s rights under the FTCPA will not be sufficient to fully cover the Authority’s costs under the FTCPA during the 20-year term of the FTCPA. In August 2019, the Authority estimated that its under-recovery of costs for the Line could be in the range of approximately $90 million to $95 million per year over the next four years. The under-recovery estimates were based on projections of the capacity payment obligations, the costs of interconnection and transmission upgrades, and energy revenues.

PJM’s RTEP cost allocation methodology for certain upgrades, such as the Bergen-Linden Corridor (“BLC”) project built by Public Service Electric & Gas Company (“PSE&G”) in New Jersey, is being challenged at FERC in numerous
proceedings by Con Edison, the Authority, HTP and other parties on the grounds that PJM has disproportionately allocated the costs of those projects to those parties. In a separate FERC proceeding, the Authority challenged the RTEP share of the BLC project costs allocated to HTP that were effective May 1, 2017 as a result of Con Edison’s termination of its PJM firm transmission rights. The cost allocations shifted approximately $533 million in RTEP charges for the BLC project that had been previously allocated to Con Edison to HTP. Such costs are in addition to the $111 million in RTEP charges for the BLC project that had been previously allocated to HTP. RTEP costs relating to the BLC project would be paid over a number of years after construction commenced in 2017. Construction of the BLC project was completed in 2018.

From June 2013 through June 2019, the Authority has paid approximately $97 million in RTEP charges for the Line, including the BLC project and pre-2013 RTEP project allocations arising from a contested settlement that FERC approved in May 2018 over the objections of the Authority and HTP.

In July 2017, the Authority, together with HTP, sought to relinquish the Firm Transmission Withdrawal Rights (“FTWRs”) held by HTP on the Line. HTP’s FTWRs formed the basis for the allocation of RTEP costs to HTP, which are the Authority’s obligation under the FTCPA. In the resulting FERC order dated December 15, 2017, FERC determined that HTP may relinquish its firm rights effective immediately. Accordingly, when PJM’s annual RTEP cost allocation update for 2018 was filed, the Authority’s obligation to pay RTEP charges related to the BLC project was 100% eliminated for 2018 and beyond. FERC issued its March 5, 2018 order endorsing PJM’s new cost allocation. Both the December 15, 2017 and the March 5, 2018 FERC orders are pending rehearing. On July 19, 2018, FERC established procedures to allow parties to resolve by settlement the continuing disputes in these and several other ongoing RTEP proceedings that relate to the BLC project costs. Settlement efforts commenced in August 2018. In July 2019, the FERC settlement judge declared an impasse in the settlement proceedings and the FERC chief judge terminated settlement proceedings for disposition of the ongoing RTEP proceedings by FERC. On August 30, 2019, FERC directed PJM to establish an allocation of historical RTEP charges that will impact NYPA to some degree, but the precise allocations will be known later in 2019. Such charges are for facilities related to transmission needs driven solely by the individual PJM transmission owners’ local planning criteria. In 2018, the D.C. Circuit Court of Appeals reversed PJM’s prior tariff provision that allocated 100% of such transmission costs to the transmission zone of the PJM transmission owner whose local planning criteria underlie the project. As a result, some RTEP charges for the period May 25, 2015 through December 31, 2017, may be reallocated to NYPA.

On March 31, 2017, the Authority and HTP executed an amendment to the FTCPA. In exchange for the Authority extending the cure period for HTP to replace underwater cables that have been subject to failure and which have resulted in the Line being out of service, under the amended FTCPA the Authority received HTP’s assurances to pursue certain remedies at FERC concerning the termination of the 320 MW of FTWRs in order to eliminate RTEP assessments and a guarantee that if PJM RTEP assessments cannot be eliminated despite HTP’s efforts to terminate the FTWRs, that HTP will cancel its interconnection service agreement (“ISA”) to physically disconnect the Line from the PJM transmission system, causing termination of all RTEP allocations. The FERC orders from December 15, 2017 and March 5, 2018 have fulfilled the goal of eliminating the RTEP assessments associated with the BLC project (though subject to further legal processes as described above). In addition, the Authority and HTP agreed to: (a) based upon RTEP costs already paid, increase, by $40 million, the size of the tracking account that is used to offset the cost to purchase the Line at the end of the FTCPA term, at the Authority’s option, and (b) shared rights to direct power on the Line in the opposite direction of its current flow should market conditions present revenue opportunities for selling capacity and energy from New York to New Jersey. In November 2017, HTP completed the cable replacement and, pursuant to the March 31, 2017 amendments, the Authority increased the leased portion of the Line’s capacity from 75% to 87.12%, bringing the total leased capacity from 495 MW to 575 MW at a monthly capacity charge rate that represents a decrease in the unit price (on a $/MW-month basis) paid to HTP in the original FTCPA.

**Purchased Power Expenses**

Capacity, energy and ancillary service purchases made on behalf of customers (except for those made through previously approved purchased power agreements) are assumed to be transacted at the market clearing price in the wholesale market. For purposes of developing this Approved Four-Year Plan, projected energy rates are based on published forward price curves, while capacity rates are based on internally developed capacity curves using external pricing sources such as broker quotes and trading platforms.
Fuel Expenses

Fossil-fuel purchases in this Approved Four-Year Plan are based on expected net generation levels determined through the use of an economic dispatch model for the Authority’s plants and on available forward fuel price curves. Fuel expenses also include the costs associated with emission credit requirements under the Regional Greenhouse Gas Initiative ("RGGI"). RGGI requires the Authority to buy emission credits for its fossil-fuel plants, and the Authority also purchases such credits for the contracted Astoria Energy II plant. The projections for RGGI costs are based on projected emission rates and forecasted consumption of natural gas and oil, with such costs recovered either through specific customer contract pass-through provisions or from the wholesale market.

Wheeling Expenses

Wheeling (i.e., the transmission and/or delivery of power and energy to customers over the lines of a third party) expenses are based on contractual and/or tariff rates of the service provider and are recovered through pass-through provisions in customer contracts.

2020 Strategic Initiatives

As part of our Vision 2020 Strategic Plan, the Authority is pursuing six strategic initiatives, which are in varying stages of implementation. These initiatives include, but are not limited to:

- Customer Solutions – to develop innovative, cost-effective and resilient energy solutions that enable customers to achieve their energy goals in new ways.
- Asset Management – to strengthen investment planning through enhanced use of technology, data, people and processes.
- Smart Generation and Transmission – to deploy advanced technologies that ensure that grid operations become increasingly intelligent.
- Workforce Planning – to identify and acquire the skills that NYPA will need to succeed, through internal training, succession planning, employee retention and external recruiting.
- Knowledge Management – to promote enhanced sharing of information and knowledge as part of day-to-day operations.
- Process Excellence – to enhance processes in order to optimize resources and costs, manage risk, and reduce environmental impact.

In 2018, at the direction of the Trustees, NYPA initiated two new key strategic activities – the aim being to identify strategic investment opportunities and build compelling business cases to:

- Multiply the impact and/or shorten the implementation time of our existing six strategic initiatives;
- Support the achievement of the State’s clean energy goals, with a focus on:
  - Building out statewide electric vehicle charging infrastructure: In May 2018, the Authority’s Trustees approved an overall allocation of up to $250 million to be used through 2025 for an electric vehicle acceleration initiative and authorized $40 million for the first phase of the initiative. The majority of this spend will be capital. In October 2018, the Authority’s Trustees awarded contracts valued at up to $60 million to several firms that will provide electric vehicle supply equipment, of which $40 million would be used to support the electric vehicle acceleration initiative.
  - Driving down the cost of Offshore Wind.
  - Building the necessary flexibility in our electricity grid in order to ensure as many low cost, clean, reliable electrons are being consumed when and where they are needed.

This Approved Four-Year Plan reflects costs and revenues with respect to these initiatives.

Vision 2030: NYPA’s updated strategic plan

Building on the successful implementation of the 2020 Strategic Plan, NYPA is currently in the process of updating the Authority’s guiding strategy through Vision 2030. This plan will center on helping achieve the greenhouse gas reduction targets in New York State’s recently passed Climate Leadership and Community Protection Act (CLCPA), the most ambitious climate change legislation in the country. NYPA’s Vision 2030 will be brought to the NYPA Trustees for approval in 2020 and aims to position NYPA and our customers to lead the transition to New York’s clean energy future.
Canal Corporation

Effective January 1, 2017, the Canal Corporation became a subsidiary of the Authority, and the Authority assumed certain powers and duties relating to the Canal System to be exercised through the Canal Corporation.

The Canal Corporation operates at a loss and is expected to require substantial operating and maintenance support and capital investment. The Canal Corporation’s expenses are expected to be funded by transfers of funds from the Authority. Any transfer of funds would be subject to approval by the Authority’s Board of Trustees and compliance with the Authority’s General Resolution Authorizing Revenue Obligations, as amended and supplemented. Certain expenses eligible for reimbursement are expected to be reimbursed to the Authority by moneys held in the Canal Development Fund maintained by the State Comptroller and the Commissioner of Taxation and Finance.

Given the age of the Canal System, the Authority expects that significant maintenance and capital investments will be required to assure the Canal System’s continuing operation. The Authority’s budget and financial plan for 2020-2023 includes Canal-related operating expenditures of approximately $85 million per year and capital expenditures of approximately $40 million per year. The Authority will continue to evaluate the condition of the Canal System and expects to allocate additional funding if deemed necessary through its annual budgeting process.

Investment Income

Investment of the Authority’s funds is administered in accordance with the applicable provisions of the Bond Resolution and with the Authority’s investment guidelines. These guidelines comply with the New York State Comptroller’s investment guidelines for public authorities and were adopted pursuant to Section 2925 of the New York Public Authorities Law.

The Authority’s investments are restricted to (a) collateralized certificates of deposit, (b) direct obligations of or obligations guaranteed by the United States of America or the State of New York, (c) obligations issued or guaranteed by certain specified federal agencies and any agency controlled by or supervised by and acting as an instrumentality of the United States Government, and (d) obligations of any state or any political subdivision thereof or any agency, instrumentality or local government unit of any such state or political subdivision which is rated in any of the three highest long-term rating categories, or the highest short-term rating category, by nationally recognized rating agencies. The Authority’s investments in the debt securities of Federal Home Loan Bank rated Aaa by Moody’s Investors Services and AA+ by Standard & Poor’s; Federal National Mortgage Association, Federal Farm Credit Bank and Federal Home Loan Mortgage Corp. were rated Aaa by Moody’s Investors Services, AAA by Fitch Ratings, and AA+ by Standard & Poor’s. All of the Authority’s investments in U.S. debt instruments are issued or explicitly guaranteed by the United States Government.
Operations and Maintenance Expenses

NYPA’s O&M plan for 2020-2023 is as follows:

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<td>TOTAL NYPA O&amp;M</td>
<td>$612.6</td>
<td>$624.7</td>
<td>$638.3</td>
<td>$650.8</td>
</tr>
</tbody>
</table>
Depreciation and Amortization Expenses
Depreciation of capital assets is generally provided on a straight-line basis over the estimated lives of the various classes of capital assets. The related depreciation provisions at December 31, 2018 expressed as a percentage of average depreciable capital assets was 2.5%.

Other Expenses
The Other Expenses category largely reflects various accruals and other miscellaneous expenses (e.g., payments to the NNYED Fund and WNY Fund), some of which require Trustee authorization on a case-by-case basis.

(d) Self – Assessment of Budgetary Risks
Set forth below is a summary of key risks associated with the Authority’s assets and operations. The following discussion of risks is intended only as a summary and does not purport to identify all of the risk factors that may affect the Authority’s assets and operations. Any one or more of the factors discussed and others could adversely affect the Authority’s operations, assets, revenues and expenses to an extent that cannot be determined at this time.

As an organization, our business units represent the first line of defense in identifying and mitigating risk within each of their verticals. This is complemented by a robust, ongoing assessment process, overseen by the Authority’s Risk group and through legal review. During the annual budgeting process, the Financial Planning team is responsible for consolidating information received from various departments at NYPA that are inputs into our financial forecast. The team actively engages and challenges all assumptions as we work toward representing the most likely future financial outcome.

Regulatory Risks
On August 1, 2016, the New York Public Service Commission (“NYPSC”) issued an order establishing a Clean Energy Standard (the “CES Order”) to implement the clean energy goals of the State Energy Plan. Pursuant to the CES Order, load serving entities identified in the order are required to purchase “Zero Emission Credits” (“ZECs”) from the New York State Energy Research Development Authority (“NYSERDA”) to support the preservation of existing at risk zero emissions nuclear generation. The Authority is not subject to NYPSC jurisdiction for purposes of the CES Order but has assumed an obligation to purchase ZECs consistent with the terms of the CES Order and intends to seek recovery of such costs from the Authority’s customers. On January 31, 2017, the Authority’s Trustees authorized (a) participation in the NYPSC’s ZEC program and (b) execution of an agreement with NYSERDA to purchase ZECs associated with the Authority’s applicable share of energy sales. The Authority and NYSERDA executed an agreement covering a two-year period from April 1, 2017 to March 31, 2019 under which the Authority committed to purchase ZECs in a quantity based on its proportional load in the New York control area. The Authority continues to operate under the terms of the agreement. A similar assumption has been made for the remainder of 2019 through 2023. As of October 2018, the Authority estimates that it will incur ZEC purchase costs associated with participation in the ZEC program of approximately $248 million in aggregate over the 2020-2023 period, of which approximately $21.7 million is not expected to be recovered under customer contracts.

The Regional Greenhouse Gas Initiative (the “RGGI”) is a cooperative effort by Northeastern and Mid-Atlantic states, including New York, to reduce carbon dioxide emission levels. Participating states have established a regional carbon dioxide emissions cap from the power sector (fossil fuel-fired power plants 25MW or greater). The emissions cap reduces by 2.5% annually until 2020. Central to this initiative is the implementation of a multi-state cap-and-trade program with a market-based emissions trading system. The program requires electricity generators to hold carbon dioxide allowances in a compliance account in a quantity that matches their total emissions of carbon dioxide for the compliance period. The Authority’s Flynn plant, the SCPPs, and Zeltmann Plant are subject to the RGGI requirements as is the Astoria Energy II plant. The Authority has participated in program auctions to acquire carbon dioxide allowances, which the Authority requires to cover operation of its fossil-fueled power plants and the Astoria Energy II plant and expects to recover RGGI costs through its power sales revenues. The number of allowances offered in the auction by RGGI cap and trade program was reduced from allowances covering 165 million tons of carbon dioxide emissions in 2013 to 60.3 million tons in 2018 and will decline by 2.5% each year through 2020. On December 19, 2017, the RGGI states released an updated Model Rule that includes an additional 30% regional cap reduction between 2020 and 2030. The Authority is monitoring federal legislation and proposed programs that would impact RGGI.
On June 19, 2019, the United States Environmental Protection Agency ("EPA") released its final Affordable Clean Energy ("ACE") rule. This rule replaces the Clean Power Plan ("CPP") rule. The ACE rule established guidelines for states, including New York, to use for carbon dioxide emissions from coal-fired plants and other regulations for implementation of the Clean Air Act Section 111 (d) for existing power plants. Previously, the CPP Rule was stayed by the U.S. Supreme Court on February 9, 2016 pending disposition of petitions for review before the U.S. Court of Appeals for the District of Columbia Circuit. Thereafter, the D.C. Circuit Court granted EPA’s motion to suspend cases challenging the CPP Rule, which the EPA has now rescinded and replaced, and is likely moot pending the D.C. Circuit Court formally ending the litigation. On August 13, 2019, twenty-two states, including New York, and seven local governments filed a petition with the U.S. Court of Appeals for the D.C. Circuit challenging the ACE rule (on August 14, 2019, a coalition of health and environmental groups followed suit by filing a petition challenging ACE). With regard to greenhouse gas emissions in New York, on July 18, 2019, Governor Andrew Cuomo signed the New York State Climate Leadership and Community Protection Act that sets a goal of net-zero carbon emissions for the entire state, not limited to the energy sector, by 2050 (85% reduction of greenhouse gas emissions from 1990 levels and implement measures to offset the remaining 15%), with a requirement for 70% of the state’s electricity to be from renewable sources by 2030 (see discussion in “New Legislation Affecting the Authority”). The Authority continues to monitor developments in this area.

During 2011, the EPA issued a series of rulings to establish the Cross-State Air Pollution Rule ("CSAPR"), which was updated in 2016. The CSAPR establishes emission allowance budgets for sulfur dioxide and nitrogen oxides for eastern states, including New York, and requires power plants in those states to hold allowances to cover their emissions. Certain trading of allowances is authorized under the CSAPR. In July 2018, a proposed determination published by the EPA found that the 2016 CSAPR Update to the National Ambient Air Quality Standards ("NAAQS") was sufficient to address the good neighbor provisions of the Clean Air Act, and that no further rulemaking is required to address out-of-state emissions as additional upwind reductions are not required to meet the 2008 ozone NAAQS. The U.S. Court of Appeals for the D.C. Circuit has not yet decided the legality of the CSAPR 2016 update (oral arguments were heard by the Court in October 2018). The Authority continues to operate its fossil-fueled plants within the allocated allowances and anticipates that operation of its fossil-fueled plants will not be impacted by CSAPR.

Congressional, state and regulatory action for the increased regulation of air, water and contaminants is periodically considered, and there are potential legislative and regulatory proposals which may affect the electric utility industry, including the Authority, in the future. The impact on the Authority’s operations of any such proposals is not presently predictable or quantifiable.

On July 18, 2019, the State enacted the “New York State Climate Leadership and Community Protection Act” as Chapter 106 of the Laws of 2019 ("Chapter 106"). As presently drafted, the date upon which most provisions of Chapter 106 will become effective will depend on the date that related legislation becomes effective.

In its present form, several provisions of Chapter 106 could potentially impact the Authority’s business and operations, such as the following: (1) provisions authorizing the New York State Department of Environmental Conservation to promulgate regulations establishing limits State-wide greenhouse gas ("GHG") emissions and to ensure compliance with such limits; (2) a requirement that specified State entities, including the Authority, adopt regulations to contribute to achieving statewide GHG emissions; (3) a requirement that State entities, including the Authority, assess and implement strategies to reduce GHG emissions; (4) consideration of whether actions that the Authority would undertake in the course of its operations are consistent with State GHG emission limits that will be established pursuant the enactment; and (5) potential allocation or realignment of resources to support State clean energy and energy efficiency goals for disadvantaged communities.

Many of the provisions of Chapter 106 that could impact the Authority are not likely to be implemented for years based on deadlines established in the enactment. Therefore, the Authority is not in a position at this time to evaluate the impact of any particular provision of Chapter 106 on the Authority’s business and operations.

The Authority has flexible rate-setting authority for many of its power sales agreements with customers; however, due to FERC’s jurisdiction over the Authority’s transmission revenue requirement (“TRR”), the Authority’s transmission cost recovery must adhere to FERC standards. In 2017, the Authority filed for a formula rate annual TRR consistent with those standards. The formula rate annual TRR is incorporated into the NYISO Open Access Transmission Tariff (“OATT”). This Approved Four-Year Plan assumes full recovery of eligible future costs under the provisions of the NYISO OATT.
Legislative and Political Risks

A series of legislative enactments have called for the Authority to subsidize business customers and the State’s general fund. Legislation enacted into law, as part of the 2000-2001 State budget, as amended up to the present time, has authorized the Authority as deemed feasible and advisable by the Trustees, to make a series of voluntary contributions into the State treasury.

In the past, the Authority has, from time to time, made voluntary contributions or payments to the State or as otherwise authorized by legislation. Such payments were authorized by legislation and have been conditional upon the Trustees' determination that such payments are “feasible and advisable”. Any such contribution or transfer of funds must (i) be authorized by law (typically, legislation enacted in connection with the State budget), and (ii) satisfy the requirements of the Bond Resolution. The Bond Resolution requirements to withdraw moneys “free and clear of the lien and pledge created by the (Bond) Resolution” are as follows: (1) such withdrawal must be for a “lawful corporate purpose as determined by the Authority,” and (2) the Authority must determine “taking into account, among other considerations, anticipated future receipt of Revenues or other moneys constituting part of the Trust Estate, that the funds to be so withdrawn are not needed” for (a) payment of reasonable and necessary operating expenses, (b) an Operating Fund reserve for working capital, emergency repairs or replacements, major renewals, or for retirement from service, decommissioning or disposal of facilities, (c) payment of, or accumulation of a reserve for payment of, interest and principal on senior debt, or (d) payment of interest and principal on subordinate debt.

In May 2011, the Authority’s Trustees adopted a policy statement (Policy Statement) which relates to, among other things, voluntary contributions, transfers, or other payments to the State by the Authority after that date. The Policy Statement provides, among other things, that in deciding whether to make such contributions, transfers, or payments, the Authority shall use as a reference point the maintenance of a debt service coverage ratio of at least 2.0 (this reference point should not be interpreted as a covenant to maintain any particular coverage ratio), in addition to making the other determinations required by the Bond Resolution. The Policy Statement may at any time be modified or eliminated at the discretion of the Authority’s Trustees.

The 2018-2019 Enacted State Budget contains a provision authorizing the Authority as deemed “feasible and advisable by its Trustees” to transfer to the State treasury to the credit of the general fund $20 million for the State fiscal year commencing April 1, 2018, the proceeds of which will be utilized to support energy-related State activities.

The 2019-2020 Enacted State Budget contains a provision authorizing the Authority as deemed “feasible and advisable by its trustees” to transfer to the State treasury to the credit of the general fund $20 million for the State fiscal year commencing April 1, 2019, the proceeds of which will be utilized to support energy-related State activities. This Approved Four-Year Plan includes the 2019-2020 Enacted State Budget provision.

The Authority cannot predict what additional contributions to the State may be authorized in the future. The Trustees’ decision as to whether and to what extent such payments are feasible and advisable will be made based on the exercise of their fiduciary responsibilities and in light of the requirements of the Authority’s Bond Resolution, other legal requirements, and all the facts and circumstances known to them at the time of the decision.

In addition to the authorization for the voluntary contributions, as a result of budget legislation enacted in February 2009, the Authority was requested to make certain temporary asset transfers to the State of funds held in reserves. Pursuant to the terms of a Memorandum of Understanding dated February 2009 (“MOU”) between the State, acting by and through the Director of the Budget of the State, and the Authority, the Authority agreed to transfer $215 million associated with its Spent Nuclear Fuel Reserves by the end of State Fiscal Year 2008-2009. The Spent Nuclear Fuel Reserves are funds that had been set aside for payment to the federal government sometime in the future when the federal government accepts the spent nuclear fuel for permanent storage. The MOU provides for the return of these funds to the Authority, subject to appropriation by the State Legislature and other conditions, at the earlier of the Authority’s payment obligation related to the transfer and disposal of the spent nuclear fuel or September 30, 2017. Further, the MOU provided for the Authority to transfer during State Fiscal Year 2009-2010 approximately $103 million of funds set aside for construction projects, which amounts would be returned to the Authority, subject to appropriation by the State Legislature and other conditions, at the earlier of when required for operating, capital or debt service obligations of the Authority or September 30, 2014.

Both temporary transfers were authorized by the Authority’s Trustees and made in 2009.

In lieu of interest payments, the State waived certain future payments from the Authority to the State, including payments to which the State was entitled, pursuant to Public Authorities Law §2975, under a governmental cost recovery process for the costs of central governmental services.
On April 24, 2014, the Authority and the State executed an Amendment to the MOU which provides that the State shall, subject to appropriation by the State Legislature, return the $103 million (Asset A) in five annual installments through State Fiscal Year 2018-2019. As of September 30, 2018, the Authority has received all installment payments, totaling $103 million on Asset A.

The Authority and the State executed a Second Amendment to the MOU, dated as of June 30, 2017, that provides for the return to the Authority of the $215 million (Asset B) in the following amounts and by no later than September 30 of each of the following State fiscal years: (1) $22 million for State Fiscal Year 2017-18, (2) $21 million for State Fiscal Year 2018-19, (3) $43 million for State Fiscal Year 2019-20, (4) $43 million for State Fiscal Year 2020-21, (5) $43 million for State Fiscal Year 2021-22, and (6) $43 million for State Fiscal Year 2022-23. The obligation of the State to return the moneys transferred by the Authority to the State is subject to annual appropriation by the State Legislature. As of October 1, 2019, the Authority has received installment payments of $86 million on Asset B. In the Second Amendment to the MOU, the Authority and the State also agreed to enter into alternative cost recovery agreements for each of State Fiscal Year 2017-18 through State Fiscal Year 2022-23 that the asset transfers have not been fully returned to the Authority. The alternative cost recovery agreements would relieve the Authority of any obligation to make up to $5 million in cost recovery assessment payments to the State in each year. In the event that the cost recovery assessment pursuant to Public Authorities Law §2975 for a given year exceeds $5 million, the assessment due from the Authority would be limited to the difference between the assessment and $5 million. This Approved Four-Year Plan assumes no such assessments during the 2020-2023 forecast period.

Section 1011 of the Power Authority Act ("Act") constitutes a pledge of the State to holders of Authority obligations not to limit or alter the rights vested in the Authority by the Act until such obligations together with the interest thereon are fully met and discharged or unless adequate provision is made by law for the protection of the holders thereof. Several bills have been introduced into the State Legislature, some of which propose to limit or restrict the powers, rights and exemption from regulation which the Authority currently possesses under the Act and other applicable law, or otherwise would affect the Authority's financial condition or its ability to conduct its business, activities, or operations, in the manner presently conducted or contemplated by the Authority. It is not possible to predict whether any of such bills or other bills of a similar type which may be introduced in the future will be enacted. In addition, from time to time, legislation is enacted into New York law which purports to impose financial and other obligations on the Authority, either individually or along with other public authorities or governmental entities. The applicability of such provisions to the Authority would depend upon, among other things, the nature of the obligations imposed and the applicability of the pledge of the State set forth in Section 1011 of the Act to such provisions. There can be no assurance that the Authority will be immune from the financial obligations imposed by any such provision.

Actions taken by the State Legislature or the Executive Branch to cause voluntary contributions or other obligation upon the Authority and which attempt to constrain the discretion of or bypass the Authority's Trustees could negatively affect net income and possibly harm the Authority's credit ratings.

As more specifically described in the enactment, and subject to limitations described therein, the 2019-20 Enacted State Budget amended the Power Authority Act to authorize the Authority, subject to feasible and advisable determinations by the Authority's Trustees, to: (1) design, finance, develop, construct, install, lease, operate and maintain electric vehicle charging stations throughout the state for use by the public; (2) plan, finance, construct, acquire, operate, improve and maintain, either alone or jointly with one or more other entities, transmission facilities for the purpose of transmitting power and energy generated by renewable wind energy generation projects that are located in State territorial waters, and/or in waters under the jurisdiction or regulation of the U.S.; (3) supply certain market power and energy and renewable energy products to any Authority customer, public entity, or community choice aggregation ("CCA") community in the State (collectively, "Eligible Entities"); and (4) alone or jointly with one or more other entities, finance the development of renewable energy generating projects that are located in the State, including its territorial waters, and/or on property or in waters under the jurisdiction or regulatory authority of the United States, purchase power, energy or related credits or attributes produced from such renewable energy generating projects, and allocate and sell such products to Eligible Entities. The Authority may exercise any of this authority at its discretion, and the changes made by the amendments do not affect the Authority’s previously-existing statutory authority.

Hydroelectric Generation Risk

The Authority’s net income is highly dependent upon generation levels at its Niagara and St. Lawrence-FDR Projects. The generation levels themselves are a function of the hydrological conditions prevailing on the Great Lakes, primarily, Lake Erie (Niagara Project) and Lake Ontario (St. Lawrence-FDR Project). Long-term generation level at the two hydroelectric projects is about 20.2 terawatt-hours ("TWH") annually. The Authority’s hydroelectric generation forecast
is 23.6 TWH in 2020, 23.1 TWH in 2021, 22.9 TWH in 2022, and 22.6 TWH in 2023. However, these generation amounts are forecasted values, and hydrological conditions can vary considerably from year to year.

The Authority conducted high and low hydroelectric generation sensitivities for 2020-2023 that estimated the potential net income that could result over a reasonable range of hydroelectric generation occurrences. The sensitivities were calculated only for merchant generation as merchant revenues has significant impact on Authority’s net income. The effects on estimated net income, assuming all other factors remain unchanged, were as follows:

<table>
<thead>
<tr>
<th>Net Merchant Hydroelectric Generation</th>
<th>NYPA Net Income Change</th>
<th>Net Merchant Hydroelectric Generation</th>
<th>NYPA Net Income Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>(In TWH)</td>
<td>(In $ Millions)</td>
<td>(In TWH)</td>
<td>(In $ Millions)</td>
</tr>
<tr>
<td>2020</td>
<td>8.4</td>
<td>($25.2)</td>
<td>10.1</td>
</tr>
<tr>
<td>2021</td>
<td>7.6</td>
<td>($39.7)</td>
<td>9.9</td>
</tr>
<tr>
<td>2022</td>
<td>7.1</td>
<td>($50.3)</td>
<td>10.1</td>
</tr>
<tr>
<td>2023</td>
<td>6.6</td>
<td>($50.1)</td>
<td>9.5</td>
</tr>
</tbody>
</table>

**Electric Price and Fuel Risk**

Through its participation in the NYISO and other commodity markets, NYPA is subject to electric energy price, fuel price and electric capacity price risks that impact the revenue and purchased power streams of its facilities and customer market areas. Such volatility can potentially have detrimental effects on NYPA’s financial condition. To moderate cost impacts to its customers and itself, NYPA, at times, hedges market risks via the use of financial instruments and physical contracts. Hedges are transacted by NYPA to mitigate the cost of energy or related products needed; to mitigate risk related to the price of energy and related products sold by NYPA; to mitigate risk related to electric margins (electric sales versus fuel use) where NYPA owns generation or other capacity; and mitigation of geographic cost differentials of energy procured or sold for transmission or transportation to an ultimate location. Hedges effectuated on behalf of NYPA’s customers are passed through, at cost, as provided for in customer contracts. Commodities able to be hedged include, but are not limited to, natural gas, natural gas basis, electric energy, electric capacity and congestion costs associated with the transmission of electricity.

On July 21, 2010, President Obama signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act (“DF Act”) which addresses, among other things, interest rate and energy related commodity swap transactions of the type in which the Authority engages. The requirements and processes are set forth in regulations promulgated by the Commodities Futures Trading Commission (“CFTC”). Pursuant to CFTC rules, the Authority, as a public entity and electric utility which uses swaps solely to manage its risk, is exempted from posting collateral beyond that of any existing credit support annexes in support of its open over-the-counter hedge positions. These CFTC rules are not anticipated to have significant impact on the Authority’s liquidity and/or future risk mitigation activities. CFTC DF Act rules are still being promulgated, and the Authority will continue to monitor their potential impact on the Authority’s liquidity and/or future risk mitigation activities.

**Other Business Risks**

**Industry Transformation**

Transformative technologies and customer empowerment are creating uncertainty for the Authority and the electric utility industry that can produce new business opportunities or reduced demand for electric energy. Through its Strategic Planning and Risk Management processes, the Authority regularly evaluates its mission, objectives, and customer needs and seeks to appropriately position the Authority to effectively meet the challenges of the transforming electric industry through implementation of initiatives such as a long-term asset management strategy and a suite of customer solutions including new/modified product offerings. The impact on the Authority’s operations of any such industry transformation is not presently predictable or quantifiable.
Workforce
Like many other industries, the power and utility sector is realizing increased competition for, and a general shortage of, talent in high skilled areas. This trend is expected to continue and be further impacted by transformations in the industry where new technologies are being developed and deployed. The Authority recognizes the uncertainty with being able to attract and retain the skills and competencies needed to meet stated objectives and regularly evaluates and positions its recruiting, talent development and benefits programs accordingly, through its workforce planning strategic initiative and other ongoing efforts.

Physical and Cyber Security
The Federal Government recognizes the electric utility industry as critical infrastructure for the United States and works closely with the industry to ensure awareness of ongoing threats and that appropriate protections are in place against both physical and cyber-attacks. The Authority constantly assesses the nature of the Physical and Cyber Security risks and adjusts its resources to best anticipate and respond to any threats. With over 1,400 circuit-miles of high voltage transmission lines and 16 power generation facilities across New York State, the Authority recognizes the critical nature of its assets. Investments to harden both physical and cyber assets and their related infrastructure are continually needed to minimize potential adverse impacts to the bulk electric system, detect and deter sabotage attempts, and protect the Authority and customer information. In addition to the infrastructure investments the Authority further mitigates its Cyber risk through the purchase of Insurance.

Catastrophic Natural Events
A catastrophic natural event such as severe weather, flooding or earthquake can negatively affect the operability of Authority assets and the bulk electric system. The Authority regularly evaluates the resiliency of its assets. In addition, the Authority has implemented disaster planning programs relating to Emergency Management, Disaster Recovery and Business Continuity. These plans are based on the specific, unique natural threats at each of its generation facilities. The Authority regularly conducts drills and exercises in order to ensure advance preparation for these types of events. The Authority maintains close working relationships with local first responders and government agencies to ensure its ongoing preparedness.

Canal Corporation
The Authority has identified key risk areas relating to the Canal Corporation and continues to employ and assess risk mitigation options across multiple enterprise risk fronts in an effort to manage or reduce potential exposures. As part of the ongoing Canals management strategy, the Authority will adjust and allocate resources accordingly.

Critical Infrastructure Failure
As a generation and transmission business, the Authority is exposed to potential critical infrastructure failure that may lead to service disruption, injury and/or degradation of system reliability impacting financial results. The Authority engages in several activities, including the recent ISO-55001 Asset Management Certification, in an effort to mitigate these risks such as the purchase of insurance, redundancy of major equipment, capital investments, and a robust operational maintenance program.

Occupational Health and Workforce Safety
As a generation and transmission business, the Authority is exposed to a variety of health and safety risks. The health and safety of NYPA’s workforce, customers, contractors and the citizens of New York are of the highest priority to the Authority. The Authority has put in place multiple levels of controls, policies, procedures, and training programs in support of reducing and/or eliminating health and safety incidents.

Litigation Risk
St. Regis Litigation
In 1982 and again in 1989, several groups of Mohawk Indians, including a Canadian Mohawk tribe, filed lawsuits (the St. Regis litigation) against the State, the Governor of the State, St. Lawrence and Franklin counties, the St. Lawrence Seaway Development Corporation, the Authority and others, claiming ownership to certain lands in St. Lawrence and
Franklin counties and to Barnhart, Long Sault and Croil islands. These islands are within the boundary of the Authority’s St. Lawrence-FDR Project and Barnhart Island is the location of significant Project facilities. Settlement discussions were held periodically between 1992 and 1998. In 1998, the Federal government intervened on behalf of all Mohawk plaintiffs.

The parties agreed to a land claim settlement, dated February 1, 2005, which if implemented would have included, among other things, the payment by the Authority of $2 million a year for 35 years to the tribal plaintiffs and the provision of up to 9 MW of low cost Authority power for use on the reservation. The legislation required to effectuate the settlement was never enacted and the litigation continued.

In 2013, all claims against the Authority were dismissed and the lawsuit against the Authority was concluded. On May 28, 2014, the State of New York, the St. Regis Mohawk Tribe, St. Lawrence County and the Authority executed a Memorandum of Understanding (“St. Regis MOU”) that outlined a framework for the possible settlement of all the St. Regis land claims. In the St. Regis MOU, the Authority endorses a negotiated settlement that, among other terms and conditions, would require the Authority to pay the Tribe $2 million a year for 35 years and provide up to 9 MW of its hydropower at preference power rates to serve the needs of the Tribe’s Reservation. The St. Regis MOU would require an Act of Congress to forever extinguish all Mohawk land claims prior to such a settlement becoming effective.

Any settlement agreement, including the terms endorsed in the St. Regis MOU, would in the first instance need to be negotiated and agreed upon by all parties to the St. Regis litigation, including parties that did not execute the St. Regis MOU, such as the two other Mohawk groups, the federal government and Franklin County. In addition, before any settlement becomes effective and the Authority is obligated to make any payments contemplated by the St. Regis MOU, federal and state legislation must be enacted which approves the settlement and extinguishes all Mohawk land claims.

Auer V. NYPA
The surviving plaintiff of a case known as Auer I, which resulted in a 1984 order issued by Judge Tenney of the New York State Supreme Court, Oswego County, brought an enforcement action seeking to enforce the 1984 order. The 1984 order related to the manner in which the Authority computes its rates for its preference power customers. By statute, those rates must be as low as possible, which essentially means the Authority must sell the power at its cost. The plaintiff contends that the Authority’s rate-making methodology does not adhere to the statutory scheme nor spirit of the Auer I order and subsequent settlement. The plaintiff is seeking monetary damages of an unspecified amount. The plaintiff has also made a motion to add certain other residential customers of certain New York municipal electric systems to the action as additional plaintiffs.

The Authority successfully made a motion to transfer the venue from New York State Supreme Court in Oswego County to the same court in Albany County. The Authority has a motion pending in Albany County to dismiss the action on multiple grounds. Plaintiff then appealed the Oswego Judge’s decision to transfer venue to the Appellate Division, Fourth Department. The Authority’s motion to dismiss in Albany County was stayed pending the outcome of the appeal. On October 4, 2019, the Appellate Division, Fourth Department issued a decision that dismissed plaintiff’s appeal of the change of venue motion and declared that the plaintiff has improperly brought this action which should have been commenced as a plenary action. The Authority intends to move forward with its motion to dismiss in Albany County.

Long Island Sound Cable Project
In January 2014, one of the Long Island Sound Cable Project underwater cables was severely impacted by an anchor and/or anchor chain dropped by one or more vessels, causing the entire electrical circuit to fail and the circuit to trip. As a result of the impact to the cable, dielectric fluid was released into Long Island Sound. The Authority incurred approximately $34 million in costs arising from this incident and has recovered approximately $18 million through insurance coverage. The Authority believes that it will be able to recover the full amount of its damages through legal proceedings, insurance coverage and contractual obligations.

Helicopter Incident near the Authority’s Transmission Lines in Beekmantown, New York
The Authority contracted with Northline Utilities, LLC (“Northline”) to install fiber optic ground wire along the Authority’s transmission system. Thereafter, Northline entered into a contract with Catalyst Aviation, LLC (“Catalyst”) for helicopter services. On October 30, 2018, a Catalyst helicopter was destroyed when it collided with a wooden utility pole and power lines near Beekmantown, New York. Members of the helicopter crew were injured, and two members of that
crew died as a result of their injuries. The Authority has received notices of claim arising out of this incident. The Authority is pursuing coverage under Northline’s insurance policies that name the Authority as an additional insured.

**Miscellaneous**
In addition to the matters described above, other actions or claims against the Authority are pending for the taking of property in connection with its projects, for negligence, for personal injury (including asbestos-related injuries), in contract, and for environmental, employment and other matters. All of such other actions or claims will, in the opinion of the Authority, be disposed of within the amounts of the Authority’s insurance coverage, where applicable, or the amount which the Authority has available therefore and without any material adverse effect on the business of the Authority.
### Revised Forecast of 2019 Budget

*(In $ Millions)*

<table>
<thead>
<tr>
<th></th>
<th>Original Budget</th>
<th>Forecast</th>
<th>Variance</th>
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<tbody>
<tr>
<td></td>
<td>2019</td>
<td>2019</td>
<td>2019</td>
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<tr>
<td><strong>Operating Revenues:</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Customer Revenues</td>
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<td>NYISO Market Revenues</td>
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<td><strong>Total Operating Revenues</strong></td>
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<td><strong>Operating Expenses:</strong></td>
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<tr>
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<td>144.2</td>
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<td>578.0</td>
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<td>Other Expenses</td>
<td>117.1</td>
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<td>(10.3)</td>
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<tr>
<td>Depreciation and Amortization</td>
<td>244.1</td>
<td>249.3</td>
<td>(5.2)</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>2,469.4</td>
<td>2,309.0</td>
<td>160.4</td>
</tr>
<tr>
<td><strong>NET OPERATING INCOME</strong></td>
<td>139.4</td>
<td>110.7</td>
<td>(28.7)</td>
</tr>
<tr>
<td><strong>Other Income:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Income</td>
<td>30.5</td>
<td>49.0</td>
<td>18.5</td>
</tr>
<tr>
<td>Other Income</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Other Income</strong></td>
<td>30.5</td>
<td>49.0</td>
<td>18.5</td>
</tr>
<tr>
<td><strong>Non-Operating Expenses:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest &amp; Other Expenses</td>
<td>149.0</td>
<td>128.2</td>
<td>20.8</td>
</tr>
<tr>
<td><strong>Total Non-Operating Expenses</strong></td>
<td>149.0</td>
<td>128.2</td>
<td>20.8</td>
</tr>
<tr>
<td><strong>NET INCOME</strong></td>
<td>$20.9</td>
<td>$31.5</td>
<td>$10.6</td>
</tr>
</tbody>
</table>

### Reconciliation of 2019 Budget and 2019 Revised Forecast

The 2019 year-end net income forecast is $31.5 million, which is $10.6 million above budget. This positive variance is primarily a result of higher investment income and lower interest expenses due to postponement of debt issuances to future periods, offset by lower generation margins, and higher other expenses. Lower generation margins are primarily due to lower customer revenue, energy prices and upstate capacity prices, largely offset by higher hydro generation, lower purchase power and wheeling expenses, as well as the sale of natural gas into the market.
(g) Statement of 2018 Financial Performance

New York Power Authority
Net Income – Actual vs. Budgeted
For the Year ended December 31, 2018
(In $ Millions)

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Budget</th>
<th>Variance Favorable/ (Unfavorable)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Revenues:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Revenues</td>
<td>$1,874.5</td>
<td>$1,832.5</td>
<td>$42.0</td>
</tr>
<tr>
<td>NYISO Market Revenues</td>
<td>793.2</td>
<td>843.9</td>
<td>(50.7)</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>20.8</td>
<td>28.3</td>
<td>(7.5)</td>
</tr>
<tr>
<td><strong>Total Operating Revenues</strong></td>
<td>2,688.5</td>
<td>2,704.7</td>
<td>(16.2)</td>
</tr>
</tbody>
</table>

| **Operating Expenses:** |         |         |                                   |
| Purchased Power         | 704.4   | 703.3   | (1.1)                             |
| Fuel                   | 188.6   | 217.6   | 29.0                              |
| Wheeling               | 653.6   | 644.8   | (8.8)                             |
| O&M Expenses           | 600.7   | 588.4   | (12.3)                            |
| Other Expenses         | 103.1   | 111.7   | 8.6                               |
| Depreciation and Amortization | 235.2   | 240.2   | 5.0                               |
| Allocation to Capital  | (14.2)  | (11.0)  | 3.2                               |
| Impairment Loss        | 0.0     | 0.0     | 0.0                               |
| **Total Operating Expenses** | 2,471.4 | 2,495.0 | 23.6                              |

**NET OPERATING INCOME**

|          | 217.1 | 209.7 | 7.4 |

**Other Income:**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Income</td>
<td>24.2</td>
<td>18.5</td>
<td>5.7</td>
</tr>
<tr>
<td>Other income</td>
<td>$0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Other Income</strong></td>
<td>24.2</td>
<td>18.5</td>
<td>5.7</td>
</tr>
</tbody>
</table>

**Non-Operating Expenses:**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest and Other Expenses</td>
<td>139.7</td>
<td>151.3</td>
<td>11.6</td>
</tr>
<tr>
<td><strong>Total Non-Operating Expenses</strong></td>
<td>139.7</td>
<td>151.3</td>
<td>11.6</td>
</tr>
</tbody>
</table>

**NET INCOME**

|       | $101.6 | $76.9 | $24.7 |

Net Income for the year ended December 31, 2018 was $102 million, which was $25 million higher than the budget of $77 million. The increase in net income was primarily attributable to lower depreciation ($5 million) due to less than planned capital spending, favorable mark to market gain on the Authority’s investment portfolio ($4 million), and lower interest expense ($12 million) due to postponement of debt issuances to future periods.
(h) Employee Data – number of employees, full-time, FTEs and functional classification

<table>
<thead>
<tr>
<th></th>
<th>2020 Request</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headquarters</td>
<td>857</td>
<td>857</td>
<td>857</td>
<td>857</td>
</tr>
<tr>
<td>Operations</td>
<td>974</td>
<td>974</td>
<td>974</td>
<td>974</td>
</tr>
<tr>
<td>Transmission</td>
<td>203</td>
<td>203</td>
<td>203</td>
<td>203</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Canal Corp</td>
<td>482</td>
<td>482</td>
<td>482</td>
<td>482</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2,530</strong></td>
<td><strong>2,530</strong></td>
<td><strong>2,530</strong></td>
<td><strong>2,530</strong></td>
</tr>
</tbody>
</table>

(i) Gap-Closing Initiatives – revenue enhancement or cost-reduction initiatives

When building a multi-year operating plan, NYPA management has developed a series of contingency plans to adapt to unforeseen changes in its financial results. The Authority is currently projecting positive net income for the 2020-2023 period, constructed upon a level of expenses outlined within this Approved Budget and Financial Plan. Should that net income projection materially change during the forecast period, management will evaluate the situation and take appropriate actions if deemed appropriate.

(j) Material Non-Recurring Resources – source and amount

Except as discussed elsewhere in this report, there are no material non-recurring resources expected in the 2020-2023 period.

(k) Shift in Material Resources

There are no anticipated shifts in material resources from one year to another.

(l) Debt Service

<table>
<thead>
<tr>
<th>New York Power Authority</th>
<th>Projected Debt Outstanding (FYE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>In $ Thousands</strong></td>
</tr>
<tr>
<td></td>
<td>2020</td>
</tr>
<tr>
<td>Revenue Bonds</td>
<td>$833,092</td>
</tr>
<tr>
<td>Subordinated Note</td>
<td>43,435</td>
</tr>
<tr>
<td>Commercial Paper Notes</td>
<td>604,979</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$1,481,506</strong></td>
</tr>
</tbody>
</table>
## New York Power Authority

### Debt Service as Percentage of Pledged Revenues

*(In $ Thousands)*

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Bonds</td>
<td>$67,775</td>
<td>$60,692</td>
<td>$90,347</td>
<td>$80,389</td>
</tr>
<tr>
<td>% of Rev.</td>
<td>2.60%</td>
<td>2.25%</td>
<td>3.32%</td>
<td>2.84%</td>
</tr>
<tr>
<td>Subordinated Debt</td>
<td>2,435</td>
<td>2,436</td>
<td>4,774</td>
<td>2,370</td>
</tr>
<tr>
<td>% of Rev.</td>
<td>0.09%</td>
<td>0.09%</td>
<td>0.18%</td>
<td>0.08%</td>
</tr>
<tr>
<td>Commercial Paper Notes</td>
<td>9,492</td>
<td>9,658</td>
<td>9,829</td>
<td>10,004</td>
</tr>
<tr>
<td>% of Rev.</td>
<td>0.36%</td>
<td>0.36%</td>
<td>0.36%</td>
<td>0.35%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$79,702</strong></td>
<td><strong>$72,786</strong></td>
<td><strong>$104,951</strong></td>
<td><strong>$92,763</strong></td>
</tr>
<tr>
<td>Debt Service % of Rev.</td>
<td><strong>3.05%</strong></td>
<td><strong>2.70%</strong></td>
<td><strong>3.86%</strong></td>
<td><strong>3.27%</strong></td>
</tr>
</tbody>
</table>

### New York Power Authority

#### Planned Use of Debt Issuances

*(In $ Thousands)*

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Amount</th>
<th>Interest Rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Period January 1, 2020 – December 31, 2020</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Exempt Commercial Paper</td>
<td>$0</td>
<td>1.50%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Taxable Commercial Paper</td>
<td>6,610</td>
<td>2.05%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Tax Exempt Revenue Bonds</td>
<td>130,985</td>
<td>3.19%</td>
<td>Transmission</td>
</tr>
<tr>
<td>Taxable Revenue Bonds</td>
<td>55,677</td>
<td>4.19%</td>
<td>Robert Moses Power Plant/Lewiston Pump Generating Plant</td>
</tr>
<tr>
<td><strong>Total Issued 2020</strong></td>
<td><strong>193,272</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Period January 1, 2021 – December 31, 2021</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Exempt Commercial Paper</td>
<td>0</td>
<td>1.50%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Taxable Commercial Paper</td>
<td>8,095</td>
<td>2.05%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Tax Exempt Revenue Bonds</td>
<td>195,511</td>
<td>3.19%</td>
<td>Transmission</td>
</tr>
<tr>
<td>Taxable Revenue Bonds</td>
<td>44,551</td>
<td>4.19%</td>
<td>Robert Moses Power Plant/Lewiston Pump Generating Plant</td>
</tr>
<tr>
<td><strong>Total Issued 2021</strong></td>
<td><strong>248,157</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Period January 1, 2022 – December 31, 2022</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Exempt Commercial Paper</td>
<td>0</td>
<td>1.25%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Taxable Commercial Paper</td>
<td>8,352</td>
<td>1.80%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Tax Exempt Revenue Bonds</td>
<td>147,393</td>
<td>2.94%</td>
<td>Transmission</td>
</tr>
<tr>
<td>Taxable Revenue Bonds</td>
<td>40,802</td>
<td>3.94%</td>
<td>Robert Moses Power Plant/Lewiston Pump Generating Plant</td>
</tr>
<tr>
<td><strong>Total Issued 2022</strong></td>
<td><strong>196,547</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Period January 1, 2023 – December 31, 2023</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Exempt Commercial Paper</td>
<td>0</td>
<td>1.50%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Taxable Commercial Paper</td>
<td>8,561</td>
<td>2.05%</td>
<td>Energy Efficiency Program</td>
</tr>
<tr>
<td>Tax Exempt Revenue Bonds</td>
<td>71,037</td>
<td>3.19%</td>
<td>Transmission</td>
</tr>
<tr>
<td>Taxable Revenue Bonds</td>
<td>58,327</td>
<td>4.19%</td>
<td>Robert Moses Power Plant/Lewiston Pump Generating Plant</td>
</tr>
<tr>
<td><strong>Total Issued 2020</strong></td>
<td><strong>$137,925</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The full faith and credit of the Authority are pledged for the payment of bonds and notes in accordance with their terms and provisions of their respective resolutions. The Authority has no taxing power and its obligations are not debts of the State or any political subdivision of the State other than the Authority. The Authority's debt does not constitute a pledge of the faith and credit of the State or of any political subdivision thereof, other than the Authority.
### Scheduled Debt Service Payments

*In $ Thousands*

#### Outstanding (Issued) Debt

<table>
<thead>
<tr>
<th></th>
<th>Principal</th>
<th>Interest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$30,675</td>
<td>$38,715</td>
<td>$69,390</td>
</tr>
<tr>
<td>2021</td>
<td>16,460</td>
<td>36,861</td>
<td>53,321</td>
</tr>
<tr>
<td>2022</td>
<td>42,935</td>
<td>35,973</td>
<td>78,908</td>
</tr>
<tr>
<td>2023</td>
<td>15,960</td>
<td>33,811</td>
<td>49,771</td>
</tr>
</tbody>
</table>

#### Proposed Debt

<table>
<thead>
<tr>
<th></th>
<th>Principal</th>
<th>Interest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$0</td>
<td>$10,812</td>
<td>$10,812</td>
</tr>
<tr>
<td>2021</td>
<td>0</td>
<td>19,465</td>
<td>19,465</td>
</tr>
<tr>
<td>2022</td>
<td>0</td>
<td>26,043</td>
<td>26,043</td>
</tr>
<tr>
<td>2023</td>
<td>12,465</td>
<td>30,528</td>
<td>42,993</td>
</tr>
</tbody>
</table>

#### Total Debt

<table>
<thead>
<tr>
<th></th>
<th>Principal</th>
<th>Interest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$30,675</td>
<td>$49,527</td>
<td>$80,202</td>
</tr>
<tr>
<td>2021</td>
<td>16,460</td>
<td>56,326</td>
<td>72,786</td>
</tr>
<tr>
<td>2022</td>
<td>42,935</td>
<td>62,016</td>
<td>104,951</td>
</tr>
<tr>
<td>2023</td>
<td>28,425</td>
<td>64,339</td>
<td>92,764</td>
</tr>
</tbody>
</table>
(m) **Capital Commitments and Sources of Funding**

The Authority's commitments for various capital improvements are approximately $3.5 billion over the financial period 2020-2023. The Authority anticipates that these improvements will be funded using existing construction funds, internally generated funds and additional borrowings. Such additional borrowings are expected to be accomplished through the issuance of additional commercial paper notes and/or the issuance of long-term fixed rate debt. Projected capital commitments during this period include those listed in the table below.

<table>
<thead>
<tr>
<th>(In $ Millions)</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Backbone</td>
<td>$51.7</td>
<td>$40.2</td>
<td>$0.0</td>
<td>$0.0</td>
</tr>
<tr>
<td>Transmission Life Extension &amp; Modernization Program</td>
<td>39.1</td>
<td>43.0</td>
<td>51.0</td>
<td>50.2</td>
</tr>
<tr>
<td>Large Energy Storage (Zones D &amp;K)</td>
<td>15.8</td>
<td>9.5</td>
<td>15.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Moses Adirondack Transmission Line Upgrade</td>
<td>91.5</td>
<td>189.6</td>
<td>124.2</td>
<td>23.5</td>
</tr>
<tr>
<td>AC Transmission Line</td>
<td>27.1</td>
<td>90.3</td>
<td>109.5</td>
<td>48.2</td>
</tr>
<tr>
<td>Robert Moses Life Extension &amp; Modernization Program</td>
<td>24.9</td>
<td>33.6</td>
<td>31.6</td>
<td>53.6</td>
</tr>
<tr>
<td>Evolve NY</td>
<td>36.8</td>
<td>42.0</td>
<td>42.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Canal Corporation</td>
<td>69.9</td>
<td>60.0</td>
<td>55.0</td>
<td>45.0</td>
</tr>
<tr>
<td>Customer Services</td>
<td>257.2</td>
<td>315.0</td>
<td>325.0</td>
<td>333.1</td>
</tr>
<tr>
<td>Other NYPA Capital</td>
<td>250.4</td>
<td>173.1</td>
<td>126.9</td>
<td>117.8</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>$864.4</strong></td>
<td><strong>$996.3</strong></td>
<td><strong>$880.5</strong></td>
<td><strong>$713.4</strong></td>
</tr>
</tbody>
</table>

**2020-2023 Capital Commitments by Function**

*In $ Millions*
Credit Discussion

Maintaining a strong relationship with the capital markets is critical to how NYPA operates. Fitch Ratings, S&P Global Ratings, and Moody’s Investor Services currently assign a AA rating to the Authority's long-term bonds, which is among the highest rating given to public electric utilities. This allows us to borrow money for capital projects at competitive rates, and to continue to offer low-cost financing to qualified customers to help fund impactful energy initiatives.

The Authority's long-term bonds are issued pursuant to the “General Resolution Authorizing Revenue Obligations” (as amended and supplemented up to the present time, the Bond Resolution). The Bond Resolution covers all of the Authority’s projects, which it defines as any project, facility, system, equipment or material related to or necessary or desirable in connection with the generation, production, transportation, transmission, distribution, delivery, storage, conservation, purchase or use of energy or fuel, whether owned jointly or singly by the Authority, including any output in which the Authority has an interest authorized by the Act or by other applicable State statutory provisions, provided, however, that the term “Project” shall not include any Separately Financed Project as that term is defined in the Bond Resolution. The Authority has covenanted with bondholders under the Bond Resolution that at all times the Authority shall maintain rates, fees or charges, and any contracts entered into by the Authority for the sale, transmission, or distribution of power shall contain rates, fees or charges sufficient together with other monies available therefor (including the anticipated receipt of proceeds of sale of Obligations, as defined in the Bond Resolution, issued under the Bond Resolution or other bonds, notes or other obligations or evidences of indebtedness of the Authority that will be used to pay the principal of Obligations issued under the Bond Resolution in anticipation of such receipt, but not including any anticipated or actual proceeds from the sale of any Project), to meet the financial requirements of the Bond Resolution. Revenues of the Authority (excluding revenues attributable directly or indirectly to the ownership or operation for Separately Financed Projects and after deductions for operating expenses and reserves, including reserves for working capital, operating expenses or compliance purposes) are applied first to the payment of, or accumulation as a reserve for payment of, interest on and the principal or redemption price of Obligations issued under the Bond Resolution and the payment of Parity Debt issued under the Bond Resolution.

The Bond Resolution also provides for withdrawal for any lawful corporate purpose as determined by the Authority, including but not limited to the retirement of Obligations issued under the Bond Resolution, from amounts in the Operating Fund in excess of the operating expenses, debt service on Obligations and Parity Debt issued under the Bond Resolution, and subordinated debt service requirements.

In order to support our AA bond rating and all of the advantages it offers the Authority and its customers, NYPA sets certain internal targets which are consistent with other peer rated organizations. In May 2011, the Authority’s Trustees adopted a policy statement (Policy Statement) which relates to, among other things, voluntary contributions, transfers, or other payments to the State by the Authority after that date. The Policy Statement provides, among other things, that in deciding whether to make such contributions, transfers, or payments, the Authority shall use as a reference point the maintenance of a debt service coverage ratio of at least 2.0 (this reference point should not be interpreted as a covenant to maintain any particular coverage ratio), in addition to making the other determinations required by the Bond Resolution. The Policy Statement may at any time be modified or eliminated at the discretion of the Authority’s Trustees.
December 11, 2019

To the Board of Trustees
Power Authority of the State of New York

To the best of my knowledge and belief after reasonable inquiry, I, the undersigned, certify that the “Authority's Method of Estimation for Budget and Financial Plan 2020-2023” is based on reasonable assumptions and methods of estimation and that the regulations enumerated in Part 203, “Budget and Financial Plan Format, Supporting Documentation and Monitoring - Public Authorities” have been satisfied.

Joseph Kessler
Chief Operating Officer

Adam Barsky
Chief Financial Officer
Vision 2030- Strategic Plan Overview & Update

Doug McMahon, VP, Head of e-mobility & Grid Flexibility

VISION

“A thriving and resilient New York powered by clean energy”

MISSION

“Leading the transition to a carbon free, economically vibrant New York through partnership with customers on innovative energy solutions and the responsible supply of affordable, clean, reliable electricity.”
VISION2030: strategic themes

1. Affordable & reliable clean electron supply
   - Grid scale generation, transmission & storage
   - Distribution and customer sided clean generation
   - Renewable energy offsets & credits

2. Energy Efficiency
   - Reducing the number of electrons consumed

3. Electrification
   - Optimally integrating new forms of electrical load

4. Demand Flexibility
   - Building flexibility in customer load & assets

5. Enterprise Digitization
   - Digitally connecting NYPAs’s end to end operations with our customers energy use

6. Workforce Development
   - Creating the skills and competencies to deliver on our strategic ambitions
Proposed Key Sections of VISION2030 Plan.

Intro & Summary
- Mission and Vision
- Letter from Trustees and President and CEO
- Linking VISION2020 to VISION2030

Climate Change Challenge
- IPCC Report
- Climate Leadership and Community Protection Act
- Decarbonization and the economy

Electricity Grid of 2040 & Customer Journey
- The future of the grid
- Challenges and opportunities
- Placing the customer at the center of VISION2030

NYPAs Role
- Impact we have today and impact we will have in the future
- Regional impact: North Country, Western NY, Central NY and SENY

Value NYPA Brings
- Why NYPA is uniquely positioned to lead
- What we bring to the industry that others do not.

Partnering with Our Customers
- How we will work with our customers
- Customer examples:
  - Municipality
  - C&I
  - Government

Measuring Success
- Goals, Targets & Milestones:
  - Decarbonization
  - Customer Value
  - Community Impact

Strategic Themes
- Investment areas
# MINUTES OF THE JOINT SPECIAL MEETING
## OF THE FINANCE COMMITTEE
### January 24, 2020

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</table>
Minutes of the joint special meeting of the New York Power Authority and Canal Corporation’s Finance Committee held at the Clarence D. Rappleyea Building at 123 Main Street, White Plains, New York at approximately 9:00 a.m.

Members of the Finance Committee present were:

Tracy B. McKibben - Chair
John R. Koelmel
Dennis Trainor
Michael Balboni

Also in attendance were:

Gil Quiniones  President and Chief Executive Officer
Justin Driscoll  Executive Vice President and General Counsel
Adam Barsky  Executive Vice President and Chief Financial Officer
Joseph Kessler  Executive Vice President and Chief Operations Officer
Kristine Pizzo  Executive Vice President and Chief Human Resources & Administrative Officer
Sarah Salati  Executive Vice President and Chief Commercial Officer
Soubhagyaa Parija  Senior Vice President and Chief Risk Officer
Robert Piascik  Senior Vice President and Chief Information Officer
Lee Garza  Senior Vice President – Financial Operations
Keith Hayes  Senior Vice President – Clean Energy Solutions
Yves Noel  Senior Vice President – Strategy and Corporate Development
Karen Delince  Vice President and Corporate Secretary
Daniella Piper  Vice President – Digital Transformation / Chief of Staff
John Canale  Vice President – Strategic Supply Management
Joseph Leary  Vice President – Community and Government Relations
Patricia Lombardi  Vice President – Project Manager
Anne Reasoner  Vice President – Budgets & Business Controls
Ethan Riegelhaupt  Vice President – Corporate Communications
Scott Tetenman  Vice President – Finance
Thakur Sundeep  Controller
Dave Work  Senior Director – Contract & Program Operations
Susan Craig  Director – Media Relations
Tabitha Robinson-Zogby  Director – Program Operations
Randall Solomon  Director – Energy Efficiency
Kerri Ahern  Manager – Customer Digital Experience
Jesse Scott  Manager – Key Account Management
Eric Park  Lead Program Engineer I – Energy Efficiency
Melinda Li  Principal Attorney I – Finance & Bonds
Lorna Johnson  Senior Associate Corporate Secretary
Sheila Quatrocci  Associate Corporate Secretary
Michele Stockwell  Project Coordinator – Executive Office
Lori DeMichele  Board Travel Specialist
Kate Ascher  Partner – Burohappold Engineering

Chairperson Tracy McKibben presided over the meeting. Corporate Secretary Delince kept the Minutes.
Introduction

Chairperson Tracy McKibben welcomed committee members and the Authority’s senior staff to the meeting. She said that the meeting had been duly noticed as required by the Open Meetings Law and called the meeting to order pursuant to Section B(4) of the Finance Committee Charter.
1. **Adoption of the January 24, 2020 Proposed Special Meeting Agenda**

   On motion made by member Dennis Trainor and seconded by member Michael Balboni the agenda for the meeting was adopted.
2. **DISCUSSION AGENDA**

a. **Informational Item: Contract Award and Expenditure Authorization Guidelines – The Procurement Process**

Mr. John Canale, Vice President of Strategic Supply Management (“SSM”) provided a report on NYPA’s Procurement process to the Committee. He said New York State Public Authorities Law requires that the Trustees take certain actions on an annual basis. He discussed NYPA’s governing laws and documents that trigger Trustee action; expenditure authorization for securing capital funds; contract authorization requirements and types of contracts that NYPA issue. In addition, he discussed the procurement Request for Proposals (“RFPs”) and the proposals evaluation process and Project Sunlight.

1. **Governing Laws**

   In accordance with the By-Laws of the Power Authority of the State of New York, the Trustees shall adopt Expenditure Authorization Procedures (“EAPs”) which shall govern the annual budget, capital expenditure plan, contract executions and all approval authorizations. To that end the Trustees have:

   • Adopted, by resolution, comprehensive procurement guidelines;
   • Adopted and submitted O&M and Capital Budgets;
   • Approved, by resolution, any contract involving services to be rendered over a period of one year; and
   • Reviewed these approvals annually.

2. **Governing Documents**

   • NYPA’s Guidelines for Procurement Contracts (“Guidelines”) is its internal governance document and is aligned with the Public Authorities Law. SSM and the Legal Department performs a thorough review each year of any changes in NYS Law and amends the Guidelines, as appropriate.
   • NYPA’s Expenditure Authorization Procedures (“EAPs”) are also reviewed annually by SSM and the Legal Department in order to keep NYPA’s EAPs aligned with the organizational structure.
   • SSM and the Budget Department’s Policies and Procedures align to the Guidelines.

3. **Expenditure Authorization – Capital Funds**

   • In order to secure capital funds for projects greater than $1.5 million in value, a Capital Expenditure Authorization Request (“CEAR”) must be completed and approved.
   • The CEAR must include a detailed business case justification and an estimate of all project or program costs.
   • The President and Chief Executive Officer may approve capital expenditures for a project up to $6M.
   • Trustee approval is required for project expenditures in excess of $6M.
   • The yearly Capital and O&M Budgets are inclusive of all anticipated expenditures.

- The main types of contracts that NYPA issue are transactional, stand-alone purchase orders and value type contracts.

- Per NYPA’s Expenditure Authorization Procedure, Trustee Approval is required for:
  - All Contracts > $6M
  - Personal Service Contracts > $2M
  - Construction Service Contracts for a term > 1yr

5. Request for Proposal and Evaluation Process

NYPA has a robust procurement process that generally consists of seven steps: Scope & Requirements Defined; Evaluation Criteria Identified; Request for Proposal (“RFP”) Developed and Issued; Bids/Proposals Submitted; Bid/Proposal Evaluation; Contract Award; and Contract Execution.

Once the RFP is issued, NYPA enters into the RFP “restricted period.” Therefore, any and all communications must be through the SSM Department.

Prior to issuing an RFP, the scope-of-work and project requirements are prepared, as well as the evaluation criteria that will be used in “scoring” the proposals received. The RFP document is prepared next, with appropriate boilerplate (or terms and conditions) added. The RFP is then issued electronically through NYPA’s electronic bidding platform called “Ariba” (an SAP product). A minimum of 15 business days is required to allow for bidders’ responses. For more complex projects, NYPA will allot more time for bidders’ responses. In addition, bidders can ask for a bid extension.

Generally, a cross-functional team is established to review the bids. NYPA award contracts based on a “best value” approach, looking at many factors including total cost of ownership, not just a low bid. Once the evaluation process is complete, staff will seek the necessary approvals in accordance with NYPA’s EAPs. NYPA can also go to the market with a Request for Qualification when it wants to short list firms and a Request for Information to obtain general information or when it has an interest in a given project or program.

6. Project Sunlight

Project Sunlight is a component of the Governor’s 2011 Public Integrity Reform Act. Effective January 1, 2013, it requires NYPA to record in a database maintained by the NYS Office of General Services (“OGS”) all individuals, firms or other entities (excluding other State and local governmental agencies and elected officials) that appear before NYPA or Canals on their own behalf or in a representative capacity on behalf of a client or customer for certain purposes.

The covered “appearances” are limited to live exchanges (i.e. meetings and video conferences) and exclude telephone calls, e-mails, letters and other written communications. These covered appearances are required to be recorded in Project Sunlight within five business days of their occurrences.

Five subject areas are covered by Project Sunlight: procurement; rate making; non-statutory regulatory matters; agency-based judicial or quasi-judicial proceedings; and adoption or repeal of a rule or regulation.
b. Utility Operations

i. Moses-Adirondack Smart Path Reliability Project – Contract Awards for Construction Services

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2020 meeting to approve the award of a five-year, competitively bid contract to Michels Power, a Division of Michels Corporation (‘MICHELS’) of Neenah, Wisconsin, in the amount of $294,274,993 to construct the Moses-Adirondack Smart Path Reliability Project (‘Project’). An additional $20,000,000 is requested for managing scope and schedule change risks over the five-year period, for a total authorization amount of $314,274,993. Interim funding in the amount of $6,000,000 was previously approved by the Chief Operating Officer to mobilize resources and equipment and procure long-lead time materials to main the project schedule.

The total estimated cost of the Project is $483.8 million which has been authorized by the Trustees, to date. This construction contract is within the approved capital expenditure authorization.

The Finance Committee is requested to recommend that the Trustees to approve the award of the five-year, competitively bid contract to Michels Power, in the amount of $294,274,993, with an additional $20 million for managing scope and schedule change risks, for a total authorization amount of $314,274,993 to complete the Project.

BACKGROUND

Section 2879 of the Public Authorities Law and the Authority’s Guidelines for Procurement Contracts require the Trustees’ approval for procurement contracts involving services to be rendered for a period in excess of one year. Additionally, in accordance with the Authority’s Expenditure Authorization Procedures, the award of construction services contracts exceeding $6 million requires the Trustees’ approval.

The existing Moses-Adirondack 1&2 Lines (‘MA 1&2 Lines’) originate in the St. Lawrence Moses Substation in Massena, New York. From the Moses Substation, the lines generally traverse in a south and southwestern direction for approximately 86 miles, terminating in the Adirondack Substation in Croghan, New York. The MA 1&2 Lines are on double-circuit steel lattice structures for the first eight miles, and the remaining 78 miles are supported by single-circuit wooden H-frame structures. The two circuits were originally constructed by the United States Department of Defense in 1942 and acquired by the Authority in 1953. The portion of the lines supported by the wooden H-frame structures have reached the end of their useful life, require frequent maintenance, and are at risk for catastrophic failure.

The Project will replace the 78 miles of wooden transmission structures with new single-circuit monopole structures that can support 345kV transmission but will operate at 230kV until the full length of the transmission system is upgraded. The new structures will be located within the Authority’s existing right-of-way. Construction will be sequenced to minimize outages on the MA 1&2 Lines and the 765kV Massena Substation – Utica Line (‘765kV MSU Line’). Optical ground wire will also be installed along the entire transmission line over both circuits.

The Article VII application for the Project was submitted to the Public Service Commission on April 5, 2018 and was approved on November 14, 2019. The Environmental Management and Construction Plan (‘EM&CP’) for the first segment of the Project was submitted on December 20, 2019 and approval is anticipated by the first quarter of 2020. EM&CP submission for the other segments of the Project are anticipated in the first quarter of 2020. The Project is estimated to be in-service mid-2023.
DISCUSSION

Construction Contractor RFQ, RFP and Contract Awards

A Request for Qualification (‘RFQ’) No. Q18-6416MR was issued on April 2, 2018 to solicit information from qualified construction contractors, enabling the Authority to evaluate the capabilities and capacity of each Contractor to support the Project. Fifteen companies submitted qualifications in response to the RFQ. The proposals were thoroughly reviewed by an evaluation committee comprised of Authority staff from Strategic Supply Management, Quality Assurance, Environmental Health and Safety, Project Development and Licensing, Engineering Transmission and Project Management. The suppliers were evaluated based on safety program and performance, financials, organization stability, engagement approach, team structure, technical qualifications and experience, successful execution of projects with similar scope and scale, and organization capacity and capabilities. Six contractors were deemed Qualified Contractors, and these six were issued the Request for Proposal (‘RFP’) for the Project.

RFP No. Q18-6544MR was issued on September 29, 2018 to the six Qualified Contractors. On November 30, 2018, five proposals were received, and, after evaluation, three contractors were shortlisted and selected for personal services contracts to support the Authority in the development of the Project’s EM&CP. The three shortlisted Contractors were:

- Kiewit, Henkels & McCoy and Aldridge Joint Venture (KHMA)
- Michels Power, a Division of Michels Corporation (MICHELS)
- PAR Electrical Contractors, Inc. (PAR)

In accordance with the RFP, upon completion of the EM&CP development support services and further development of engineering design, the Authority issued a Post-Bid Addendum (PBA-2) to the RFP on August 13, 2019 to the three shortlisted contractors. The PBA-2 requirements included, but were not limited to: pricing; the bidders’ plans to execute the civil, foundation and structure erection works; furnish supervision, labor, materials and/or equipment; and perform all operations required for safe and environmentally compliant demolition, reconstruction and restoration of the Project. On October 10, 2019, three proposals were received in response to the PBA-2. The bidders’ evaluated prices were: MICHELS - $313,752,416; KHMA - $474,422,877; and PAR - $434,313,346.

The Authority requires an experienced supplier with proven capability and capacity to demolish over 1,600 wooden H-frame structures and install over seven hundred and seventy, 345kV steel pole structures with drilled shaft or directly embedded foundations, double bundled conductor and all associated appurtenances for a properly functioning transmission line. Additionally, there are significant schedule constraints on the Project including permitting and outages, which minimizes the available work time and require a skilled and knowledgeable contractor to reduce risk to the Project. The proposal submitted by KHMA was found to be overly conservative with a cumbersome approach to the work in addition to a significantly higher price. The proposal submitted by PAR had a significantly higher price.

Following evaluation, clarifications and negotiations, the evaluation committee recommends awarding a contract to MICHELS as they were evaluated to be technically capable, experienced, safe and the best value. Additionally, after successful negotiations with MICHELS, their proposed price was reduced to $294 million. Therefore, the evaluation committee recommends awarding a contract to MICHELS for the reasons stated above.

On December 18, 2019, the Authority issued a Limited Notice to Proceed to MICHELS to support initial construction activities.
FISCAL INFORMATION

Payment associated with this Project will be made from the Authority’s Capital Fund and will be recovered under the Authority’s FERC approved formula rate. Amounts in excess may require approvals in accordance with the New York Independent Service Operator (‘NYISO’) tariff.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve the award of a five-year, competitively bid contract to Michels Power, a Division of Michels Corporation (‘MICHELS’), of Neenah, Wisconsin, in the amount of $294,274,993, with an additional $20,000,000 for managing scope and schedule change risks over the five-year period, for a total authorization amount of $314,274,993, to construct the Moses-Adirondack Smart Path Reliability Project.

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

On motion made by member John Koelmel and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees, pursuant to the Guidelines for Procurement Contracts adopted by the Authority and the Authority’s Expenditure Authorization Procedures, award a five-year contract to Michels Power, a Division of Michels Corporation (‘MICHELS’) of Neenah, Wisconsin, in the amount of $294,274,993, with an additional $20,000,000 for managing scope and schedule change risks over the five-year period, for a total authorization amount of $314,274,993, to construct the Moses-Adirondack Smart Path Reliability Project;

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Contract Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michels Power</td>
<td>$314,274,993</td>
</tr>
<tr>
<td>Neenah, WI</td>
<td>(Q18-6654MR)</td>
</tr>
</tbody>
</table>
ii. Transmission Life Extension & Modernization Program

Central Region Tower Painting Project – Contract Award

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2020, meeting to approve a four-year contract award in the amount of $20,232,110 to Public Utilities Maintenance Inc. of Queens Village, NY for work to support the Transmission Life Extension and Modernization (‘TLEM’) Program, specifically the Tower Painting Project in the Central Region (the ‘Project’).

Section 2879 of the Public Authorities Law and the Authority’s Guidelines for Procurement Contracts require the Trustees’ approval for procurement contracts involving services to be rendered for a period in excess of one year. Additionally, in accordance with the Authority’s Expenditure Authorization Procedures, the award of non-personal services contracts exceeding $6 million requires the Trustees’ approval.

The Finance Committee is requested to recommend that the Trustees approve the award of the four-year construction services contract to Public Utilities Maintenance Inc. of Queens Village, NY, in the amount of $20,232,110, for the Project.

BACKGROUND

In 2012, the Trustees approved a $726 million TLEM Program for the Authority’s transmission system through 2025. As of November 30, 2019, the Authority has spent approximately $343 million on the TLEM Program. The TLEM Program is currently on time and on budget.

The Authority’s transmission assets require continued maintenance to extend the longevity of critical components, achieve compliance with regulatory requirements and maintain system reliability. Existing paint/coating conditions on steel towers of the Central Region transmission line warrant a new program of repainting/recoating to protect painted and galvanized steel surfaces.

The scope-of-work includes surface preparation and recoating towers on approximately 1,049 transmission structures. The transmission lines affected are: Edic to Fraser Substations (‘EF’); Utica to Coopers Corner (‘UCC’); Coopers Corner to Rock Tavern (‘CCRT’); Roseton to Fishkill (‘RFK’); Crescent, Vischer Ferry Substations and river crossing towers. All work is expected to be completed by the end of 2023.

DISCUSSION

The Authority’s Request for Proposal (Q19-6786DK), was advertised via Ariba e-sourcing and in the New York State Contract Reporter on August 29, 2019. Two site walk-downs were held, and two bidders were in attendance. One proposal was received on October 3, 2019.

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Base Proposal</th>
<th>Evaluated Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Utilities Maintenance, Inc. (Queens Village, NY)</td>
<td>$20,232,110</td>
<td>$20,232,110</td>
</tr>
</tbody>
</table>

The fair cost estimate (‘FCE’) for this Project is $16,356,300. The FCE was prepared as a class 4 estimate. The proposal received is within the expected accuracy range for the FCE.
The proposal was reviewed by an Evaluation Committee consisting of staff from Transmission, Engineering, Strategic Supply Management and Project Management.

Public Utilities Maintenance Inc. is technically qualified and has demonstrated an understanding of the Request for Proposal requirements and are currently conducting similar work in the Western Region. There are no outstanding exceptions to the Authority’s commercial terms and conditions for the work.

FISCAL INFORMATION

Payment associated with this Project will be made from the Authority’s Operating Fund. Costs associated with this Project, which is a component of the TLEM Program, were included in the Authority’s 2020 Operating Budget and the Authority’s Approved Four-Year Budget and Financial Plan for 2020-2023. Costs associated with the TLEM Program are recoverable through tariff or other rate-based cost-recovery mechanisms.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve a four-year contract award in the amount of $20,232,110 to Public Utilities Maintenance Inc. for work to support the Transmission Life Extension and Modernization Program, specifically the Tower Painting Project in the Central Region.

On motion made by member John Koelmel and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees approve a four-year contract award in the amount of $20,232,110 to Public Utilities Maintenance Inc. of Queens Village, NY, for work to support the Transmission Life Extension and Modernization Program, specifically the Tower Painting Project in the Central Region;

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Utilities Maintenance Inc.</td>
<td>$20,232,110</td>
</tr>
<tr>
<td>Queens Village, NY</td>
<td></td>
</tr>
<tr>
<td>(Q18-6786DK)</td>
<td></td>
</tr>
</tbody>
</table>
iii. St. Lawrence-FDR Power Project – Hatch Cover Deck Grouting and Surface Rehabilitation Project (Phase 2) Capital Expenditure Authorization Request and Contract Award

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2020 meeting to approve capital expenditures in the amount of $9,331,800 for Phase 2 of the St. Lawrence–FDR Power Project’s Hatch Cover Deck Grouting and Surface Rehabilitation Project (‘Project’) and approve the award of a three-year contract to Perras Excavating, Inc. (‘Perras’) in the amount of $7,339,000, to provide construction services to complete the Project.

The total estimated Project cost is $15,007,800. Capital expenditures for Phase 1, in the amount of $5,676,000, were previously approved by the President and Chief Executive Officer. Approval of this request will release the final balance of the capital expenditures expected for the Project.

The Finance Committee is requested to recommend that the Trustees approve the capital expenditures in the amount of $9,331,800 for Phase 2 of the Project and approve the award of the three-year contract to Perras in the amount of $7,339,000, to provide construction services to complete the Project.

BACKGROUND

Phase 2 of the Project supports the continuation of the Hatch Cover Deck and Grouting Rehabilitation Project for the refurbishment of the decking surfaces at the Robert Moses Power Dam. The structure has been in existence for over 50 years and shows signs of excessive wear and tear. Water is penetrating the decking and infiltrating the equipment galleries below.

Section 2879 of the Public Authorities Law and the Authority’s Guidelines for Procurement Contracts require the Trustees’ approval for procurement contracts involving services to be rendered for a period in excess of one year. Additionally, in accordance with the Authority’s Expenditure Authorization Procedures, the award of construction services contracts exceeding $6 million requires the Trustees’ approval.

DISCUSSION

Phase 1 of the Project, which was completed in 2019 on time and on budget, included the refurbishment of eight of the eighteen hatch cover deck blocks.

Phase 2 of the Project is for the refurbishment of the remaining ten deck blocks.

The projected spending for Phase 2, which is anticipated to be completed in 2022, is included in the Four-Year Budget and Financial Plan approved by the Trustees in December 2019.

The Authority issued a Request for Proposal (Q19-6803DK) through the Ariba system, which was advertised in the New York State Contract Reporter on October 2, 2019. One proposal was received on October 31, 2019. The Authority’s Fair Cost Estimate for this work is $7,810,000.

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Evaluated Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perras Excavating, Inc. Massena, NY</td>
<td>$7,339,000</td>
</tr>
</tbody>
</table>
The proposals were reviewed by an Evaluation Committee composed of staff from Engineering, Strategic Supply Management, Project Management, and Program Controls.

Consistent with the Authority’s Procurement Procedures, the proposals have been evaluated for price, completeness, schedule compatibility, exceptions to the Bid Documents, relevant experience, and safety record.

The Committee concluded that Perras, having extensive experience in similar construction, demonstrated knowledge of the scope-of-work and performed satisfactorily under the earlier phase of the Project, is capable of completing this Project in accordance with the schedule. Perras did not take any technical exceptions and took no exception to meeting the minority and women-owned business enterprise goals, however, Perras requested a waiver of the Service Disabled Veterans-Owned Business (‘SDVOB’) goal requirement set forth in the contract documents.

Capital funding in the amount of $5,676,000 was previously approved to perform the engineering, design and for the rehabilitation of the first eight hatch cover deck blocks.

The total cost for Phase 2 of the Project is estimated at $9,331,800, and is summarized as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Engineering and Design</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering/Design</td>
<td>$50,000</td>
</tr>
<tr>
<td>Procurement</td>
<td>$0</td>
</tr>
<tr>
<td>Construction/Installation</td>
<td>$8,072,900</td>
</tr>
<tr>
<td>Authority Close-Out, Direct and Indirect Expenses</td>
<td>$1,208,900</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$9,331,800</strong></td>
</tr>
</tbody>
</table>

**FISCAL INFORMATION**

Payment associated with this project will be made from the Authority’s Capital Fund.

**RECOMMENDATION**

It is requested that the Finance Committee recommend that the Trustees approve capital expenditures in the amount of $9,331,800 for Phase 2 of the St. Lawrence–FDR Power Project Hatch Cover Deck Grouting and Surface Rehabilitation Project and approve the award of a three-year contract to Perras Excavating, Inc. in the amount of $7,339,000 to provide construction services to complete the Project.

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

On motion made by member John Koelmel and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of**
January 24, 2020

$9,331,800 for Phase 2 of the St. Lawrence-FDR Power Project’s Hatch Cover Deck Rehabilitation Project;

<table>
<thead>
<tr>
<th>Capital</th>
<th>Expenditure Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch Cover Deck Rehabilitation Project (Phase 2)</td>
<td>$9,331,800</td>
</tr>
</tbody>
</table>

AND BE IT FURTHER RESOLVED, That the Finance Committee recommends that the Trustees, pursuant to the Guidelines for Procurement Contracts adopted by the Authority and the Authority’s Expenditure Authorization Procedures, award a three-year contract to Perras Excavating, Inc. of Massena, NY, in the amount of $7,339,000 to provide construction services to complete the aforementioned project;

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Contract Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perras Excavating, Inc.</td>
<td>$7,339,000</td>
</tr>
<tr>
<td>Massena, NY</td>
<td></td>
</tr>
</tbody>
</table>

(Q19-6803DK)
c. Financial Operations

i. Policy for Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Customer Contracts

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested, at their January 29, 2020 meeting, to approve the Policy for the Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Customer Contracts (the ‘Policy’), attached hereto as ‘Exhibit 2c i-A’. The Policy establishes the objectives and framework for the hedging program (the ‘Program’) to use financial derivative instruments to mitigate the impact of price volatility of the commodities described below on the Authority’s earnings and cashflow.

The Finance Committee is requested to recommend that the Trustees approve the Policy.

BACKGROUND

From time to time, the Authority enters into contracts with customers in which the Authority’s revenue receipts are based, in part, on the price of a commodity that does not relate to the Authority’s generation and transmission assets (each such commodity, a ‘Non-Energy Commodity’). To effectively manage its cashflow budget and forecast, the Authority is developing a hedging program (the ‘Program’) to use financial derivative instruments to mitigate the impact of price volatility of Non-Energy Commodities on the Authority’s earnings and cashflow.

DISCUSSION

The Policy sets forth the objective of the Program and provides the overall framework for:

1. Delegation of Authority – The Finance Committee reviews and recommends the Policy before the Board may approve the Policy. The Chief Executive Officer and Chief Financial Officer (‘CFO’) each have authority to approve a transaction after making a determination that the transaction meets the criteria established by the Policy. The CFO must approve all procedures developed to implement the Program. The Treasury Department is responsible for the day-to-day management of the Program.

2. Separation of Duties – Front office (strategy, execution, etc.), middle office (risk, credit and collateral monitoring), and back office (recording and financial reporting) functions are assigned to the Treasury Department, Risk Management Department, and the Controller’s Department, respectively.

3. Hedging Agreements, Instruments, and Counterparties – Transactions must be executed using confirmations under the industry-standard International Swaps and Derivatives Association’s Master Agreement, confirmations for exchange-traded derivatives, or other forms approved by the General Counsel. Hedging instruments must take the form of swaps, futures, caps, floors, collars, forward rate agreements or other exchange-traded products. Transactions may only be executed with counterparties that have been approved after a credit review conducted in accordance with the Authority’s credit risk guidelines.

4. Other Limitations –

a. Non-speculative – All hedging activities must be non-speculative, i.e., based on an identified, underlying risk which is correlated to a quantifiable exposure.
b. Term: Transactions must have a term of no greater than 4 years.

c. Maximum notional amount: Total notional amount under the Program must be no greater than $100 million.

5. Reporting: On an annual basis to the Finance Committee and Board, and on a quarterly basis to the Executive Risk Management Committee, the CFO and/or Treasury staff will report on the Program with information such as the exposure of the Authority to Non-Energy Commodities and the effectiveness of the Program.

6. Policy Review – The CFO and Chief Risk Officer will review and update the policy on no less than an annual basis. Any material changes to the Policy will be subject to Finance Committee review and Board approval.

The Policy, as well as the procedures to be established subject to the approval of the CFO, will be coordinated with the Authority’s policies and procedures for enterprise risk management and energy commodity risk management to manage overall credit, collateral, and liquidity risk at an enterprise level.

FISCAL INFORMATION

The costs of implementing the Program under the Policy will be funded from the Authority’s Operating Fund.

RECOMMENDATION

The Executive Vice President and Chief Financial Officer requests that the Finance Committee recommend that the Trustees approve the Policy for the Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Customer Contracts attached as ‘Exhibit 2c i-A’ and discussed above.

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

On motion made by member Michael Balboni and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee has reviewed the Policy for the Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Customer Contracts (the “Policy”) and recommends that the Trustees approve the Policy.
ii. Release of Funds in Support of the Residential Consumer Discount Program Created in Connection with the Recharge New York Power Program

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested, at their January 29, 2020 meeting, to approve the release of $30.0 million in funds during 2020 in support of the monthly Residential Consumer Discount Program created in connection with the Recharge New York (‘Recharge NY’) Power Program, as authorized by Chapter 60 of the Laws of 2011 (‘Chapter 60’). The funds are to be released monthly at a level of $2.5 million per month. It is estimated that the $30.0 million authorized for the Residential Discounts in 2020 will be entirely offset from (1) Recharge NY hydropower allocated and sold to Recharge NY customers, and (2) unallocated Recharge NY hydropower sold into the wholesale market.

The Finance Committee is requested to recommend that the Trustees approve the release of the $30 million in funds during 2020 in support of the Residential Consumer Discount Program.

BACKGROUND

The Authority is requested, from time to time, to make financial contributions and transfers of funds to the State or to otherwise provide financial support for various State programs including the Residential Consumer Discount Program related to Recharge NY.

Any such contribution or transfer of funds must (1) be authorized by the Legislature; (2) be approved by the Trustees ‘as feasible and advisable,’ and (3) satisfy the requirements of the Authority’s General Resolution Authorizing Revenue Obligations dated February 24, 1998, as amended and supplemented (‘Bond Resolution’). Further, as set forth in the Trustees’ Policy Statement dated May 24, 2011, a debt service coverage ratio of 2.0 shall be used as a reference point in considering any such payments or transfers.

The Bond Resolution’s requirements to withdraw monies ‘free and clear of the lien and pledge created by the [Bond] Resolution’ are such that withdrawals (a) must be for a ‘lawful corporate purpose as determined by the Authority,’ and (b) the Authority must determine, taking into account, among other considerations, anticipated future receipt of revenues or other moneys constituting part of the Trust Estate, that the funds to be so withdrawn are not needed for (i) payment of reasonable and necessary operating expenses, (ii) an Operating Fund reserve for working capital, emergency repairs or replacements, major renewals or for retirement from service, decommissioning or disposal of facilities, (iii) payment of, or accumulation of a reserve for payment of, interest and principal on senior debt or (iv) payment of interest and principal on subordinate debt.

DISCUSSION

In March 2011, Governor Cuomo signed into law legislation creating the Recharge NY Power Program. The Program utilizes 455 megawatts (‘MW’) of the firm power from the Authority’s Niagara and St. Lawrence hydroelectric facilities, combined with market-based power purchases, forming a new, 910-megawatt economic development power program to replace and expand upon the Power For Jobs (‘PFJ’) and Energy Cost Savings Benefits (‘ECSB’) economic development programs.

As part of the Recharge NY Power Program, the Authority, on August 1, 2011, withdrew all 455 MW of the firm hydroelectric power previously sold to certain utility companies for the benefit of their residential consumers. To mitigate the price impacts of this withdrawal on the residential consumers, the Authority was authorized by Chapter 60, as deemed feasible and advisable by the Trustees, to fund
monthly ‘Residential Consumer Discount Program’ payments for the benefit of such consumers on a declining schedule. For each of the first three years following the withdrawal, the Authority is authorized to provide $100 million per year to fund the discounts. In years four and five following the withdrawal, the Authority is authorized to fund discounts of $70 million and $50 million, respectively. Beginning in year six following the withdrawal, and for each year thereafter, the Authority is authorized to fund discounts of $30 million per year.

The Authority is authorized to use the revenues from the sale of the withdrawn power, together with any other funds of the Authority as the Trustees may deem feasible and advisable, to support the Residential Consumer Discount Program. The net cost to the Authority of the Residential Discounts after taking into account the resale of the power following the withdrawal from its prior use to supply certain utility companies for the benefit of their residential consumers, is projected to be entirely off-set from (1) Recharge NY hydropower allocated and sold to Recharge NY customers, and (2) unallocated Recharge NY hydropower sold into the wholesale market during 2020. Given the volatility in market prices, however, there is no assurance that the sale of this power will produce sufficient revenues to cover this amount of the residential discounts.

The Trustees have previously approved the release of funds in support of the Residential Consumer Discount Program, the most recent action being taken at the January 2019 meeting. Under consideration today are payments for 2020. Staff intends to return to the Trustees with a recommendation as to the release of any future amounts related to the Residential Consumer Discount Program based on how the overall program is progressing as well as the financial circumstances of the Authority at the time such payments are to be considered.

Staff has reviewed the effects of the $30.0 million in anticipated payments of the Residential Consumer Discount Program on the Authority’s projected financial position and reserve requirements. In addition, in accordance with the Board’s Policy Statement, staff calculated the impact of this release, together with the last 12 months’ releases, including (i) the release of up to $86.2 million in Canal-related operating expenses for 2019 ($21.6 million authorized December 2018, $21.6 million in March 2019, $21.6 million in May 2019, and $21.6 million in September 2019), (ii) the release of up to $21.6 million in Canal-related operating expenses for 2020 authorized in December 2019; (iii) the release of up to $2 million in Northern NY Power Proceeds net earnings authorized in March 2019, and (iii) the release of up to $1 million in Western NY Power Proceeds net earnings authorized in March 2019, on the Authority’s debt service coverage ratio and determined it would not fall below the 2.0 reference level. Based on the Authority’s Four-Year Budget and Financial Plan, the 2.0 reference point level is forecasted to be met for each year-end of the forecast period 2020-2023. Given the current financial condition of the Authority, its estimated future revenues, operating expenses, debt service and reserve requirements, staff is of the view that it will be feasible for the Authority to provide $30.0 million of the Residential Consumer Discount Program at this time.

FISCAL INFORMATION

Staff has determined that sufficient funds are available in the Operating Fund to provide $30.0 million in support for the Residential Consumer Discount Program authorized by Chapter 60 at this time, and that such Authority funds are not needed for any of the purposes specified in Section 503(1)(a)-(c) of the Authority’s Bond Resolution. The release of $30.0 million associated with the Residential Consumer Discount Program payments was anticipated and reflected in the Power Authority’s 2020 Operating Budget approved by the Trustees at their December 2019 meeting. The net cost to the Authority of the Residential Consumer Discounts, after taking into account the resale of the power following the withdrawal from its prior use to supply certain utility companies for the benefit of their residential consumers, is projected to be entirely off-set from Recharge NY hydropower allocated and sold to Recharge NY customers and unallocated Recharge NY hydropower sold into the wholesale market during 2020. These monthly payments will be recorded as an expense at the time of payment.
RECOMMENDATION

The Chief Commercial Officer and the Senior Vice President of Clean Energy Solutions hereby requests that the Finance Committee recommend that the Trustees approve the release of $30.0 million during 2020 to support the Residential Consumer Discount Program.

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

On motion made by member Michael Balboni and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee hereby recommends that the Trustees authorize the release of $30.0 million from the Operating Fund during 2020 to support the monthly Residential Consumer Discount Program as authorized by Chapter 60 of the Laws of 2011 and as discussed in the foregoing report of the President and Chief Executive Officer.
d. Commercial Operations

i. Authorization of Operational Support and Maintenance Support Program for the Authority’s Energy Efficiency Customers

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2020 meeting to authorize the inclusion of an Operational Support and Maintenance Support Program for Energy Efficiency Customers (‘O&M Program’) as part of the Authority’s Energy Efficiency Program (‘EEP’), consistent with Public Authorities Law §1005 (17). The O&M Program is an energy-related service to support equipment so that the Authority’s customers can maximize equipment life and continue to benefit from the energy savings on equipment installed through the EEP. The O&M Program will be available to the Authority’s governmental customers and Statewide Energy Efficiency Program customers participating in the EEP. The costs will be recovered directly from the Authority’s customers. Customers will also be charged a fee to participate in the O&M Program. The O&M Program will be funded from amounts authorized by the Trustees for the Authority’s EEP.

The Finance Committee is requested to recommend that the Trustees authorize the inclusion of the O&M Program as part of the Authority’s EEP, consistent with Public Authorities Law §1005 (17).

BACKGROUND

Public Authorities Law §1005 (17) authorizes the Authority to finance and design, develop, construct, implement, provide, and administer energy-related projects, programs and services. ‘Energy-related projects, programs and services’ means energy efficiency projects and services, clean energy technology projects and services, and high performance and sustainable building programs and services, and the construction, installation and/or operation of facilities or equipment done in connection with any such projects, programs or services.

Since 1990, the Authority has completed over $3 billion of energy-related projects throughout the State. The Authority and its customers have benefited from energy and greenhouse savings while meeting the State’s ambitious goals of a 40 percent reduction in emissions by 2030. Once a project is completed, the Authority’s customers are responsible to operate and maintain the newly installed systems. The proposed program gives customers an option for maintenance and operational support for these newly installed energy efficient projects.

DISCUSSION

After a project is completed, EEP customers often face challenges in obtaining the resources and expertise required to operate and maintain new systems. Therefore, customers are expressing a demand for the O&M Program. Through the O&M Program, customers would be able to maintain energy savings, maximize the life of the equipment, ensure reliable operation with skilled staff, and transition out of the construction phase by continuing to work with the Authority.

Through the O&M Program, the Authority would offer preventative and unscheduled maintenance support services only on equipment that NYPA has installed through the EEP. Maintenance support includes extended training, spare parts, inspections, major equipment service contracts, calibration, testing, and preventative measures. The Authority would offer operational support only by providing qualified staff, but the customer will be fully responsible to approve, supervise and direct the staff. In
addition, the care, custody and control of the equipment will remain with the customer and the Authority is not taking over nor becoming responsible for operating the customers’ systems.

Prior to entering the O&M Program, each project will be required to undergo a risk evaluation in order to limit and mitigate the Authority’s exposure. Such evaluations may preclude certain systems and limit the scope of services provided. In addition, the O&M Program would be implemented through the Authority’s consultants that designed, installed, and commissioned the system, and preferably include an extension to the warranty. For each project, the duration of the O&M Program will last no more than five (5) years.

Through the EEP, the Authority has completed over 2300 turnkey projects from audit to construction, and this O&M Program would beneficially complement such projects and provide additional value to the customer.

The O&M Program, including the operation and maintenance program for outdoor lighting that was authorized by the Trustees at their March 26, 2019 meeting, will be funded from the amounts authorized for the Authority’s EEP. At the Trustees’ December 11, 2019 meeting, the Trustees approved an increase of $1.5 billion in funding for the Authority’s Governmental EEP and Statewide EEP for a total of $5.38 billion in approved funding, to date.

FISCAL INFORMATION

The O&M Program will be made available to customers participating in the Authority’s EEP and will be funded from the amounts authorized for the Authority’s EEP. Funding for the Authority’s EEP is provided from the Authority’s operating funds and/or from the proceeds of the Authority’s Commercial Paper Notes or other financing instruments, as deemed appropriate. All Authority costs, including Authority overheads, for the O&M Program will be recovered from the customers.

RECOMMENDATION

The Chief Commercial Officer, the Senior Vice President of Clean Energy Solutions, the Vice President of Engineering & Construction Management, and the Vice President of Business Development requests that the Finance Committee recommend that the Trustees approve the inclusion of the Operational Support and Maintenance Program as part of the Authority’s Energy Efficiency Program, consistent with Public Authorities Law §1005 (17).

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

On motion made by member John Koelmel and seconded by member Michael Balboni, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees approve the inclusion of the Operational Support and Maintenance Program as part of the Authority’s Energy Efficiency Program, consistent with Public Authorities Law §1005 (17).
ii. Energy Efficiency Program – Authorization to Award Contract for Street Lighting Operation and Maintenance Services

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2020 meeting to approve the award of a contract to E-J Electric T&D LLC in an amount of $15 million for a term of up to five years for maintenance of streetlights owned by municipalities statewide who are participating in the Authority’s operation and maintenance program for outdoor lighting (‘Smart Street Lighting NY Maintenance Services Program’) that the Trustees authorized in March 2019. Funding will be allocated from the amounts authorized by the Trustees for the Governmental Customer and Statewide Energy Efficiency Programs (respectively, the ‘GCEEP’ and ‘Statewide EEP’).

The Finance Committee is requested to recommend that the Trustees approve the award of the contract described above.

BACKGROUND

Section 2879 of the Public Authorities Law and the Authority’s Guidelines for Procurement Contracts require the Trustees’ approval of procurement contracts involving services to be rendered for a period in excess of one year. In accordance with the Authority’s Expenditure Authorization Procedures, the award of non-personnel services or equipment contracts in excess of $6 million require the Trustees’ approval.

To meet the goal of increasing energy efficiency set forth in Executive Order 88, Governor Andrew Cuomo launched ‘Build Smart NY,’ emphasizing cost-effective improvements for energy savings. Build Smart NY also supports the Governor’s economic development goals to accelerate energy efficient projects that will create jobs and improve infrastructure within the State. Governor Cuomo also launched the Smart Street Lighting NY Program which aims to replace at least 500,000 streetlights statewide with energy-saving LED technology by 2025. The award of this contract will enhance the Authority’s GCEEP and Statewide EEP and further support the Governor’s initiatives.

DISCUSSION

The GCEEP and Statewide EEP provide energy efficiency and renewable energy services to customers meeting the eligibility criteria under the Public Authorities Law. The Authority has engaged with customers statewide, including cities and towns, for the implementation of streetlights. The Authority is looking to establish a strategic relationship with contractors to provide ongoing maintenance of street lighting systems.

Municipalities converting their streetlights to LED technology must first buy the lighting systems from the utility. When the municipality purchases the equipment it also assumes responsibility for equipment maintenance. Street lighting system ownership is new to most municipalities. Typically, they do not have the staff or expertise to maintain the systems. The Authority created the Smart Street Lighting NY Maintenance Services Program to fill this gap. Through the Program, the Authority can enter into term maintenance agreements with public entities to provide these needed services.

On March 25, 2019, the Trustees authorized the Smart Street Lighting NY Maintenance Services Program as part the Authority’s energy efficiency program. At the Trustees’ January 29, 2019 meeting, staff is requesting that the Trustees authorize the inclusion of an operation and maintenance program in
the Authority’s energy efficiency program. The Smart Street Lighting NY Maintenance Services Program will be a component of the larger operation and maintenance program.

On June 12, 2019, the Authority issued a Request for Proposal (‘RFP’) through the Authority’s Ariba system. Twenty-one suppliers were initially invited to bid on the RFP with ten firms expressing interest. On July 3, 2019, three proposals were received from Northline Utilities (Northline), Candela Electric (‘Candela’), and E-J Electric T&D LLC (‘E-J’). The RFP was divided into ten regions statewide with bidders having the option to bid on any or all regions.

Based upon a thorough technical evaluation of the proposals for experience and capacity, as well as reference checks, and pricing, the Authority’s staff recommends the award of a contract to E-J Electric T&D LLC.

FISCAL INFORMATION

The funding for this contract award and the Smart Street Lighting NY Maintenance Services Program will be provided from the amounts authorized by the Trustees for the Authority’s GCEEP and Statewide EEP. Funding for the Authority’s GCEEP and Statewide EEP is provided from the Authority’s operating funds and/or from the proceeds of the Authority’s Commercial Paper Notes or other financing instruments, as deemed appropriate. All Authority costs, including Authority overheads, will be recovered from the customers.

RECOMMENDATION

The Senior Vice President – Commercial Operations, the Vice President – Strategic Supply Management and the Vice President – Business Development requests that the Finance Committee recommend that the Trustees approve a contract award to E-J Electric T&D LLC in the aggregate amount of $15 million for a term of up to five years for maintenance of streetlights owned by municipalities statewide that are participating in the Authority’s Smart Street Lighting NY Maintenance Services Program.

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

On motion made by member John Koelmel and seconded by member Michael Balboni, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Finance Committee recommends that the Trustees approve a contract award to E-J Electric T&D LLC in an amount of $15 million for a term of up to five years for the maintenance of streetlights owned by municipalities statewide that are participating in the Authority’s Smart Street Lighting NY Maintenance Services Program.
iii. Customer Digital Experience Program – Capital Expenditure Authorization Request

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2020 meeting to approve additional capital expenditures of $10,223,400 for the Customer Digital Experience (‘CDEx’) program (‘Program’). This Program will allow the Authority to provide its customers with the solutions they need and establishes the Authority as a digital leader in the energy industry. The requested funding will be used for the procurement of software and the development of digital solutions.

Initial funding for CDEx was approved by the President and Chief Executive Officer in 2019 in the amount of $5,769,200. The current request of $10,223,400 will bring the current Program cost to $15,992,600. These additional funds will support the continued development and delivery of customer features in 2020. It is anticipated that CDEx will require additional capital funding of $19,577,000 for a total of $35,569,600 through 2022. Using the Agile process and incorporating customer feedback, additional features will be developed on an on-going basis, the costs of which will be presented to the Trustees in a future capital expenditure authorization request.

The Finance Committee is requested to recommend to the Trustees the authorization of additional capital expenditures in the amount of $10,223,400 to advance the CDEx Program.

BACKGROUND

In accordance with the Authority’s Capital Planning and Budgeting Procedures, capital expenditures in excess of $6 million require the Trustees’ approval.

CDEx was established with the goal of creating exceptional customer experiences in the digital space. It is a critical step in helping the Authority achieve its strategic vision of becoming the nation’s leading end-to-end digital utility. Supporting the 2020 Vision, CDEx will enable the Authority to efficiently deliver innovative digital value-added information and services to support its customers’ and employees’ success. The CDEx program will produce benefits that will be measured in four areas: customer experience, employee empowerment, operational efficiency and financial outcomes.

DISCUSSION

The Authority’s customers require more sophisticated solutions to help solve their energy challenges. The CDEx Program will be instrumental in delivering these solutions. CDEx will evaluate the customer’s current experience interacting with the Authority and identifying ways to improve upon it. This includes, but will not be limited to, viewing and paying bills, contract management, tracking carbon emission reduction and tracking status of energy efficiency projects conducted with the Authority. By improving upon the digital processes, the Authority’s customers will have real-time access to information maintained by NYPA.

These improvements will take many forms - from establishing new communication channels with customers to creating a portal through which customers can access their information. These priorities will evolve based on customer requirements. It is critical to the success of the Program to be fluid but also to establish a process to define priorities.

As customer expectations have shifted, the Authority is evolving to meet those expectations. Customers are not just benchmarking their experiences by comparing similar industries – every organization is now being compared to those seen as best-in-class. From banking applications that
create an ease of use that was unthinkable just a few years ago, to e-commerce ‘one-click’ purchases,
every organization, regardless of category, needs to meet the challenges those expectations create.

With the original funding of $5.8 million, the CDEx Program developed an online account center
which is a critical milestone for the Authority and its customers. In addition to its current functionality, the
account center acts as a foundation on which to build future capabilities and will provide a mechanism for
timely releases of new products and improvements to existing products. These additional capabilities will
enhance the Authority’s ability to communicate with its customers, provide opportunities for customers to
access relevant information and streamline processes for customers and employees. The Program is
currently on time and on budget.

Staff is seeking authorization in the amount of an additional $10,223,400 for the next year of the
Program. This funding is expected to be used to continue design and development of digital solutions
that provide value to the Authority’s customers and employees and procure software required to develop
and deliver additional customer solutions.

FISCAL INFORMATION

Payment associated with this project will be made from the Authority’s Capital Fund. CDEx is
part of headquarters’ costs and will be partially recovered through various Authority cost recovery
mechanisms. Capital expenditures for CDEx were included in the Authority’s 2020 Budget.

RECOMMENDATION

The Senior Vice President – Clean Energy Solutions requests that the Finance Committee
recommend that the Trustees authorize additional capital expenditures in the amount of $10,223,400 to
advance the Customer Digital Experience Program.

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

On motion made by member John Koelmel and seconded by member Michael Balboni, the
following resolution, as submitted by the President and Chief Executive Officer, was unanimously
adopted.

RESOLVED, That the Finance Committee hereby
recommends that the Trustees, in accordance with the
Authority’s Capital Planning and Budgeting Procedures,
authorize capital expenditures in the amount of $10,223,400 for
the advancement of the Customer Digital Experience Program in
accordance with, and as recommended in, the foregoing
memorandum of the President and Chief Executive Officer.
e. Canal Corporation

i. Funding and Budget Authorizations for the Reimagine the Canals Initiative

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees will be requested at their January 29, 2019 meeting to: (a) authorize an investment of $300 million over five years for the Reimagine the Canals Initiative (‘Initiative’) and (b) approve an increase of $30 million to the Authority’s 2020 Capital Budget to fund the Initiative in 2020. The Initiative encompasses three prongs: (1) $100 million of funding for projects in communities along the Canal system, (2) $65 million of funding for projects that will help prevent ice jams and related flooding, and (3) $135 million of funding for projects recommended by the Reimagine Task Force and approved by the Authority or projects related to mitigation of drought impacts on agriculture, expansion of fishing opportunities, flood mitigation, invasive species prevention, and ecosystem restoration.

Staff will obtain authorization to make specific drawdowns and submit spending requests for projects per the Authority’s Expenditure Authorization Policy.

The Finance Committee is requested to recommend that the Trustees: (a) authorize the investment of $300 million over five years for the Initiative as described above and (b) approve the increase of $30 million to the Authority’s 2020 Capital Budget to fund the Initiative in 2020.

BACKGROUND

The Authority assumed operation and ownership of the New York State Canal System (‘Canal’) in 2017. Shortly thereafter, the Authority launched the Reimagine the Canals Design Competition to take a 200-year-old asset and re-imagine it for the next hundred years. Under the competition guidelines, the Authority could pick only two winners from the 145 applicants, leaving many great ideas unselected. Therefore, in May 2019, Governor Andrew M. Cuomo announced the creation of the Reimagine the Erie Canal Task Force to continue work on reimagining the canals and to identify ideas/solutions that promote economic development, recreation, and resiliency, starting with, but not limited to, all 145 proposals for the Reimagine competition.

The Task Force engaged with municipal leaders, stakeholders, local business owners, scientists and other experts, along with community members, to identify opportunities and solutions that support a new vision for future investments in the waterway. SUNY’s Rockefeller Institute of Government, on behalf of the Task Force, conducted a series of outreach sessions during the summer in five canal communities - Lockport, Brockport, Schenectady, Utica and Syracuse - to solicit new ideas from the public at large. Ideas were also solicited on a Reimagine the Canals website, offering more distant canal users an opportunity to provide their views to the Task Force.

Additionally, the Task Force oversaw technical analysis (including analysis from Authority experts), plan development; and the assembling of a strategic plan and vision. Their work culminated in the publication in January 2020 of the Reimagine the Canals Task Force Report (‘Task Force Report’).

DISCUSSION

Governor Cuomo’s 29th proposal of his 2020 State of the State address included a recommendation that the Authority’s Board of Trustees and the Canal Board of Directors approve $300 million in funding for the Initiative. This investment would produce a return for New York State residents
along and near the Canal and will also set the Canal on a path where efficiencies could be achieved to reduce long-term Canal capital and operating costs.

The first phase of funding is expected to start this year and will have two parts: a $100 million of funding for projects in communities along the Canal and a separate $65 million of funding for projects that will help prevent ice jams and related flooding.

The $100 million of funding will be used to support projects that adaptively reuse canal infrastructure to enhance water recreation, tie the Canal’s new recreational improvements to the Empire State Trail, celebrate historic canal structures, and develop unique canal-side attractions and activities. Roughly $25 million of that funding will be for a set of initial projects:

- The ‘Brockport Loop’ project in Monroe County will connect SUNY College at Brockport to the Empire State Trail and the village of Brockport through the transformation of a canal guard-gate into a pedestrian bridge and overlook, with a supporting grant of $2 million from the Ralph Wilson Foundation.

- Interactive, hydro-powered illumination of Canal ‘movable dams’—initially in Amsterdam and Canajoharie in the Mohawk River valley—will celebrate the Canal’s heritage and its history as an engineering marvel.

- A new whitewater destination, at the north end of Cayuga Lake near Seneca Falls, will rely on existing water control infrastructure to construct an active water sports course adjacent to the Montezuma National Wildlife Refuge, to increase eco-tourism and sport visitors to the region.

- One of the winners of the original Reimagine the Canals competition, a canal-side pocket neighborhood, will be developed by Madison County in Central New York at a former industrial property in Canastota along the Old Erie Canal - demonstrating a new model for 21st century canal-side living.

- The historic Guy Park Manor, on the Mohawk River in Amsterdam, will be reborn as a hospitality destination and a pedestrian bridge constructed across the already-existing Canal lock will provide access to additional overnight accommodation along the Empire State Trail on the opposite side of the river.

The $65 million of funding for projects along the lower Mohawk River Valley focuses on flooding resiliency improvements and incorporates various recommendations from the Task Force Report, including the development of an Ice Jam Monitoring and Early Warning System to better alert communities to potential flooding, further assessments of potential river channel modifications, use of icebreakers/cutters, and possible retrofits to the Vischer Ferry Dam to mitigate ice jams and summer flooding on the Mohawk River.

The remaining $135 million of funding will be allocated to projects recommended by the Reimagine Task Force and approved by the Authority or projects related to mitigation of drought impacts on agriculture, expansion of fishing opportunities, flood mitigation, invasive species prevention, and ecosystem restoration. Staff will develop a process for evaluating such projects.

In December 2019, the Trustees approved the Authority’s 2020 Budget, including the 2020 Capital Budget, and approved the Four-Year Budget and Financial Plan for 2020-2023. Staff is requesting that the Trustees approve an increase of $30 million to the 2020 Capital Budget to fund the Initiative in 2020. For future years, the Initiative will be included in the annual budgeting process and the Four-Year Budgets and Financial Plans.
Expenditure of funds authorized by the Trustees as part of the Initiative will be subject to compliance with applicable laws and regulations, including the New York State Environmental Quality Review Act and any license and permit requirements.

All expenditures and releases of funds shall be in compliance with the Authority’s General Resolution Authorizing Revenue Obligations, dated February 24, 1998, as amended and supplemented.

FISCAL INFORMATION

The $300 million Initiative will be funded from the Authority’s Capital Fund and internally generated funds.

RECOMMENDATION

The Senior Vice President – Strategy and Corporate Development requests that the Finance Committee recommend that the Trustees (a) authorize an investment of $300 million over five years for the Reimagine the Canals Initiative as described above and (b) approve an increase of $30 million to the Authority’s 2020 Capital Budget to fund the Initiative in 2020.

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

“Mr. Yves Noel, Senior Vice President of Strategy and Corporate Development, provided an overview of the Reimagine the Canals initiative to the Board. He said, ‘stretching from Albany to Buffalo, it is arguable that no infrastructure project over the last two centuries is more responsible for New York’s rise as a state, and New York City’s rise as a global capital, than the Erie Canal.’

He continued that staff is now asking for the Finance Committee to recommend to the Board of Trustees two items (1) authorize an investment of $300 million over five years for the Reimagine the Canals Initiative and (2) approve an increase of $30 million to the Authority’s 2020 Capital Budget to fund the Initiative. In keeping with long-standing policy, staff will come back to the Board for specific project authorizations.

To support this recommendation, Mr. Noel provided background on the Reimagine the Canals initiative including expected benefits; offer examples of projects and next steps.

NYPA assumed responsibility for management of the New York State Canal System in 2017. Shortly after that turnover of control, the Authority launched its Reimagine the Canals competition. This competition was designed to take a 200-year-old asset and consider what the next 100 years could look like for this iconic asset. There was an enthusiastic response, globally, with the Authority receiving 145 applications from 9 countries. In October 2018, the Authority announced two competition winners. The ideas which won included the Erie Armada, a festival and boat race in the Finger Lakes region, and a Canalside Pocket neighborhood.

As an outgrowth of the competition, Governor Cuomo formed a Task Force to focus on such issues as potential new uses for the Canal, evaluate how the Canal System can support economic development, and identify ideas to enhance recreation and tourism related to the Canal System. These ideas were innovative and varied, explicitly recognizing a great understanding as to the importance and continuing relevance of the New York Canal System.

The Task Force studied a wide array of challenges and opportunities facing the canal communities including ecologic restoration, economic regeneration, agricultural irrigation, and flood mitigation. To build on the Task Force’s findings, Governor Cuomo, in his 2020 State-of-the-State address, recommended that the NYPA Board approve a $300 million investment over the next five years.
The benefits to the environment, canal side communities, people of New York, NYPA and its employees are numerous. The plan is to reimagine the Erie Canal by creating more recreational activities along the Canal, boosting tourism, mitigating flooding, enhancing irrigation, recreational fishing and restoring wetlands. NYPA’s employees are working very hard to operate and maintain this enormous, over 500-mile asset. This is an opportunity to work with the canal communities and develop ideas to make them even better.

NYPA’s plan is to:

- Invest $100 million in economic development funding for the adaptive reuse of infrastructure in communities along the canal;
- Invest $65 million in solutions to help prevent ice jams and related flooding; then
- allocate the remaining $135 million to enhance irrigation and fishing as well as pursue ideas recommended by the Reimagine Task Force and other projects.

Within the $100 million for economic development, an initial $25 million would be allocated for 5 projects:

1. The "Brockport Loop" project in Monroe County will connect SUNY College at Brockport to the Empire State Trail and the village of Brockport through the transformation of a canal guard-gate into a pedestrian bridge and overlook, with a supporting grant of $2 million from the Ralph Wilson Foundation.

2. Celebrating "Iconic Infrastructure" is an interactive, illumination of Canal "movable dams" – initially in the Mohawk River valley – which will celebrate the Canal's heritage and its history as an engineering marvel.

3. A new whitewater destination, at the north end of Cayuga Lake near Seneca Falls, will rely on existing water control infrastructure to construct an active water sports course adjacent to the Montezuma National Wildlife Refuge to increase eco-tourism and sport visitors to the region.

4. The fourth project, and winner of the Reimagine the Canals competition, a canal side pocket neighborhood, will be developed by Madison County in Central New York at a former industrial property along the Old Erie Canal - demonstrating a new model for 21st century canal side living.

5. The historic Guy Park Manor, on the Mohawk River in Amsterdam, will be reborn as a hospitality destination and a pedestrian bridge constructed across the already-existing Canal.

There would be a $65 million investment in measures to help prevent ice jams and related flooding. This effort will include:

1. deploying an icebreaker and exploring dredging and filling in certain portions of the Mohawk to prevent ice jam formation;
2. developing an ice jam monitoring and early warning system to better alert communities to potential flooding; and
3. retrofitting the New York Power Authority’s Vischer Ferry power dam in Niskayuna to help mitigate summer flooding and ice jams around the Schenectady and Scotia areas.
The remaining $135 million of the plan’s funding would be available to allocate to research recommended by the Reimagine Task Force including measures to mitigate the spread of invasive species and ecosystem restoration.

These investments are designed to achieve the following results:

- Grow Regional Tourism
- Activate towns along the Empire State Trail
- Mitigate ice jams and flooding
- Protect and expand agriculture
- Establish a new world-class fishing destination
- Restore and create wetlands

While the members of the Canal Corporation’s team will continue the operations and maintenance of the canal infrastructure, the Reimagine the Canals initiative’s next steps will include: mobilizing the team, a new unit within NYPA to lead the initiative forward; continuing public outreach; continue collecting and categorizing great ideas, and continue with the feasibility, planning and design of projects.

Mr. Noel ended by saying that NYPA is excited about this new, third iteration of the Erie Canal and looks forward to working with communities along the waterway to make these ideas come to life and to make the Canal the best it can be for future generations of New Yorkers and visitors to this great state.”

On motion made by member Michael Balboni and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, that the Finance Committee recommends that the Trustees (a) authorize an investment of $300 million over five years for the Reimagine the Canals Initiative, which encompasses three prongs: (1) $100 million of funding for projects in communities along the Canal system, (2) $65 million of funding for projects that will help prevent ice jams and related flooding, and (3) $135 million of funding for projects recommended by the Reimagine Task Force and approved by the Authority or projects related to mitigation of drought impacts on agriculture, expansion of fishing opportunities, flood mitigation, invasive species prevention, and ecosystem restoration; and (b) approve an increase of $30 million to the Authority’s 2020 Capital Budget to fund the Reimagine the Canals Initiative in 2020.
4. **Next Meeting**

   Chairperson McKibben said that the next regular meeting of the Finance Committee is to be determined.
Closing

Upon motion made by member Michael Balboni and seconded by member Dennis Trainor, the meeting was adjourned by Chairperson McKibben at approximately 10:35 a.m.

Karen Delince
Karen Delince
Corporate Secretary
EXHIBITS

For

January 24, 2020

Meeting Minutes
New York Power Authority

Policy for Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Customer Contracts
Article I. Purpose of the Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Customer Contracts

Section 1.00 Acronyms and Definitions

Authorized Treasury Staff – Treasurer, Deputy Treasurer, and Senior Investments Manager

CEO – Chief Executive Officer

CFO – Chief Financial Officer

CRO – Chief Risk Officer

ISDA Master Agreement – The International Swaps and Derivatives Association Master Agreement and its related annexes and definitions

NEC or Non-Energy Commodity – A commodity that is not: energy; capacity; renewable energy attributes; and similar commodities relating to the Authority’s generation and transmission assets

NEC Hedging Activities – Hedging activities related to financial risk management of NEC-Linked Customer Contracts

NEC Hedging Agreement – Agreement by the Authority to transact NECs in connection with NEC Hedging Activities

NEC-Linked Customer Contract – Contract between the Authority and a customer in which the Authority’s revenue receipts are calculated, directly or indirectly, based on the price of a NEC

Procedures – Controls and procedures developed to implement the Program and this Policy

Program – The Authority’s program under this Policy to conduct NEC Hedging Activities

Qualified Counterparties – Counterparties that meet the criteria set forth in Section 2.04
Section 1.01 Introduction

The Authority, from time to time, enters into NEC-Linked Customer Contracts. The Authority seeks to manage the impact of NEC-Linked Customer Contracts on the Authority’s cashflow and financial position. Management of these commodity price risks is essential in forecasting the Authority’s revenue and managing future cashflow requirements. This Policy for the Hedging Program to Manage Cashflow Risks of Non-Energy Commodity Linked Energy Contracts (the “Policy”) sets forth the objectives, delegation of authority and overall parameters to govern the Authority’s NEC Hedging Activities.

Section 1.02 Scope and Objective

The objective of the Program is to ensure that the Authority is optimizing cashflow flexibility by managing volatility and taking into consideration the Authority’s credit rating; identifying financial risks pertaining to changes in relevant NEC prices and mitigating those risks where they exceed management-determined risk appetite; and improving financial risk management for the Authority by managing its exposure to NECs through NEC-Linked Customer Contracts.

This Policy shall govern the Program and NEC Hedging Activities under the Program.
Article II. Policy

Section 2.01 Delegation of Authorities

a) Board of Trustees

This Policy has been approved by the Board of Trustees with the review and recommendation of the Finance Committee. Any amendments to this Policy must be reviewed and recommended by the Finance Committee and approved by the Board of Trustees prior to becoming effective.

b) CEO and CFO

Prior to the execution of a NEC Hedging Agreement, the CEO or the CFO shall make a written determination that, after considering the underlying risk and mitigation strategies, such NEC Hedging Agreement is reasonably expected to reduce exposure to changes in NEC prices by managing cashflow risk arising from a NEC-Linked Customer Contract.

All Procedures developed in accordance with this Policy shall be reviewed and approved by the CFO before taking effect.

c) Treasurer and Deputy Treasurer

The Treasurer and the Deputy Treasurer, in collaboration with the CFO and the CRO, shall be responsible for the following activities:

1. Ensure all NEC Hedging Activities are conducted in accordance with this Policy, and, in collaboration with the Law Department, in accordance with applicable law;

2. Establish and maintain NEC Hedging Procedures for administration of the Program, including:
   a) Formulation of hedge strategies;
b) Selection of prospective counterparties, subject to credit review by the Risk Management Department as set forth in Section 2.04;

c) Counterparty diversification standards and maximum exposure;

d) Negotiation and execution of agreements, in collaboration with the Law Department, including credit and collateral agreements;

e) Determining bidding/negotiation procedures in accordance with the applicable policies and procedures of the Authority;

f) As needed from time to time, select exchanges, such as the London Metals Exchange (“LME”), Chicago Mercantile Exchange (“CME”) or New York Mercantile (“NYMEX”), for the trade of exchange-traded products;

g) As prudent from time to time, seek the services of a Swap Advisor registered under the Investment Advisor’s Act of 1940 to assist in bidding/negotiation of transactions; and

h) Other controls and procedures for successful implementation of the Program, consistent with industry standards.

Section 2.02 Separation of Duties

The Program shall maintain a separation of duties within the following organizational functions:

1. Front Office (Treasury Department) – responsible for: development and execution of hedge strategy, collateral transfers, development and maintenance of effective hedge documentation in conjunction with the Risk Management Department and Controller’s Department, and execution and on-going evaluation of NEC Hedging Agreements.

2. Middle Office (Risk Management Department) – responsible for: identifying and monitoring risk; counterparty credit evaluation and monitoring; fair market valuation; collateral management; and compliance monitoring.
3. Back Office (Controller’s Department) – responsible for: guidance regarding hedge effectiveness testing; processing Hedge Agreement confirmations; and recording transactions and financial reporting.

The Procedures shall detail governance and reporting procedures consistent with the separation of duties outlined above.

Section 2.03 NEC Hedging Agreements and Permitted Hedging Instruments

NEC Hedging Agreements shall take the form of an ISDA Master Agreement with confirmation, a confirmation relating to exchange-traded products, or any other form approved by the Authority’s General Counsel.

All NEC Hedging Agreements are subject to prior review and approval by the Law Department and the Controller’s Department.

Each NEC Hedging Agreement executed by the Authority shall be with a Qualified Counterparty.

Only the following hedging instruments are permitted to be transacted under the Program: swaps, futures, caps, floors, collars, forward rate agreements or any exchange-traded products.

NEC Hedging Agreements shall be entered into by the Authority only to the extent that they meet the criteria listed within this Policy and the Procedures.

Section 2.04 Qualified Counterparties

The Authority’s Enterprise Risk Management Department shall conduct credit reviews of prospective counterparties. Each counterparty approved after by a credit review by the
Enterprise Risk Management Department in accordance with the Authority’s credit risk guidelines shall be a Qualified Counterparty.

**Section 2.05 Non-Speculative Nature; Additional Limitations**

The Program and NEC Hedging Agreements shall be subject to the following limitations:

1. The Program shall be non-speculative. All NEC Hedging Activities shall be based upon an identified, underlying risk which is correlated to a quantifiable exposure.

2. Except as the Board of Trustees shall have expressly approved, the Authority shall not enter into NEC Hedging Agreement(s) having a term greater than four years.

3. Notional amount of the NEC Hedging Activities under the Program on an aggregate basis shall be no greater than $100,000,000.

The Program and NEC Hedging Agreements shall comply with all other limitations under the Procedures.

**Section 2.06 Reporting**

On an annual basis to the Board of Trustees and the Finance Committee, and on a quarterly basis to the Executive Risk Management Committee, the CFO and/or Authorized Treasury Staff, working in collaboration with the Enterprise Risk Management Department and the Controller’s Department, shall report on the results of the Program including:

1. NEC exposure of the Authority, net of the effects of NEC Hedging Agreements and the mitigation strategies;

2. The status of individual NEC Hedging Agreements in effect, including notional amount, rates, terms, and the rating of counterparties;
3. The marked-to-market valuations, effectiveness of net credit exposures to the Authority by individual counterparties or exchanges, and collateralization that has been provided, when deemed necessary.

Section 2.07 Policy Review; Amendments

This Policy shall be reviewed and updated as business needs require. However, a mandatory review by the CFO and CRO shall be required on annual basis. Any material changes to this Policy shall be reviewed and recommended by the Finance Committee and approved by the Board of Trustees prior to becoming effective.
Next Meeting

The next regular meeting of the Joint Finance Committee is scheduled for May 14, 2020.