

**MINUTES OF THE REGULAR MEETING
OF THE
POWER AUTHORITY OF THE STATE OF NEW YORK**

December 17, 2015

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Minutes of the Regular Meeting of the Power Authority of the State of New York held at the Clarence D. Rappleyea Building, 123 Main Street, White Plains, New York at approximately 10:05 a.m.

Members of the Board present were:

John R. Koelmel, Chairman
Joanne M. Mahoney, Vice Chair
Eugene L. Nicandri, Trustee
Terrance P. Flynn, Trustee
Dr. Anne M. Kress, Trustee

Jonathan F. Foster, Trustee - Excused

Gil Quiniones	President and Chief Executive Officer
Edward Welz	Chief Operating Officer
Parija Soubhagya	Chief Risk Officer
Robert Lurie	Executive Vice President and Chief Financial Officer
Justin Driscoll	Executive Vice President and General Counsel
Jill Anderson	Senior Vice President – Public and Regulatory Affairs
Joseph Kessler	Senior Vice President – Power Generation
James Pasquale	Senior Vice President – Economic Development & Energy Efficiency
Kristine Pizzo	Senior Vice President – Human Resources
Bradford Van Auken	Senior Vice President – Operations Support Services & Chief Engineer
Rocco Iannarelli	Senior Vice President – Corporate Affairs
Gerard Vincitore	Senior Vice President – Corporate Finance
Karen Delince	Vice President and Corporate Secretary
Kristen Barbato	Vice President – Customer Energy Solutions
John Canale	Vice President – Procurement
Keith Hayes	Vice President – Marketing
Joseph Leary	Vice President – Community and Government Relations
Anne Reasoner	Vice President – Budgets and Business Controls
Ethan Riegelhaupt	Vice President – Corporate Communications
Scott Tetenman	Vice President – Finance
Gerald Goldstein	Assistant General Counsel – Contracts, Licensing & Environmental
Dominick Luce	Senior Director and Acting Vice President – Energy Efficiency
Frank Deaton	Director – Internal Audit
Helen Eisenfeld	Director – Financial Controls
Lori Gale	Director – Civil/Structural Engineering, Civil/Structural Engineering
John Plasko	Director – Corporate Support Services
Silvia Louie	Senior Project Manager – Executive Office/Public and Regulatory Affairs
Steven Gosset	Manager – Media Relations
Gregory Jablonsky	Manager – Network Services – Infrastructure
Glenn Martinez	Senior Network Analyst – Infrastructure
Lorna Johnson	Senior Associate Corporate Secretary
Sheila Baughman	Senior Assistant Corporate Secretary

Chairman Koelmel presided over the meeting. Corporate Secretary Delince kept the Minutes.

Introduction

Chairman Koelmel welcomed the Trustees and staff members who were present at the meeting. He said that the meeting had been duly noticed as required by the Open Meetings Law and called the meeting to order pursuant to the Authority's Bylaws, Article III, Section 3.

1. **Adoption of the December 17, 2015 Proposed Meeting Agenda**

Upon motion made and seconded, the meeting Agenda was adopted.

Conflicts of Interest

Trustees Flynn and Kress declared conflicts of interest as indicated below and said they would not participate in the discussions or votes as it relates to those matters.

Trustee Flynn:

- *Time Warner Cable (Item #4c i); Saint Gobain Performance Plastics (Item #7c)*

Trustee Kress:

- *1366 Technologies Inc. (Item #7b)*

Chairman Koelmel and Trustees Nicandri, Picente and McKibben declared no conflicts.

2. **Motion to Conduct an Executive Session**

Mr. Chairman, I move that the Authority conduct an executive session pursuant to the Public Officers Law of the State of New York section §105(1)(f) to discuss the medical, financial, credit or employment history of a particular person or corporation, or matters leading to the appointment, employment, promotion, demotion, discipline, suspension, dismissal or removal of a particular person or corporation. Upon motion made and seconded, an Executive Session was held.

3. **Motion to Resume Meeting in Open Session**

Mr. Chairman, I move to resume the meeting in Open Session. Upon motion made and seconded the meeting resumed in Open Session.

4. CONSENT AGENDA:

Upon motion made and seconded, the Consent Agenda was approved.

Trustee Flynn was recused from the vote as it relates to Time Warner Cable (#4c-i).

a. Governance Matters:

i. Approval of the Minutes

The Minutes of the Regular Meeting held on September 29, 2015 were unanimously adopted.

ii. **Proposed Schedule of Trustees' Meetings in 2016**

The Corporate Secretary submitted the following report:

"The following schedule of meetings for the year 2016 is recommended:

MONTH OF TRUSTEES' MEETING	TRUSTEES' MEETING DATE
	<i>(All meetings on Tuesday except where indicated)</i>
JANUARY	January 26, 2016 – WPO
FEBRUARY	No Meeting Scheduled
MARCH	March 29, 2016 – ANNUAL – WPO
APRIL	No Meeting Scheduled
MAY	May 24, 2016 – WPO
JUNE	No Meeting Scheduled
JULY	July 26, 2016 – WPO
AUGUST	No Meeting Scheduled
SEPTEMBER	September 27, 2016 – WPO
OCTOBER	No Meeting Scheduled
NOVEMBER	No Meeting Scheduled
DECEMBER	December 15, 2016 – WPO - Thursday

RECOMMENDATION

The President and Chief Executive Officer and I support the proposed schedule for the Authority's Trustees' Meetings for the year 2016, as set forth in the foregoing report.

I recommend the approval of the proposed schedule by adoption of the resolution below."

The following resolution, as submitted by the Corporate Secretary, was unanimously adopted.

RESOLVED, That the schedule of Trustees' Meetings for the year 2016, as set forth in the foregoing report of the Corporate Secretary, be, and hereby is, approved.

b. Power Allocations:

i. Contracts for the Sale of Preservation Power – Transmittal to the Governor

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees are requested to:

- 1) Approve proposed final contracts ('Contract' or 'Contracts') for the sale of 4,000 kilowatts ('kW') of Preservation Power ('PP') to St. Lawrence Zinc Company, LLC and 300 kW to New York Air Brake LLC, respectively (collectively, the 'Companies'), in accordance with Public Authorities Law ('PAL') §1009 as summarized below and in Exhibit '4b i-A.'
- 2) Authorize transmittal of the Contracts to the Governor for his review and requested authorization for the Authority to execute the Contracts pursuant to PAL §1009.

The Contracts are attached as Exhibits '4b i-B-1' and '4b i-B-2.'

BACKGROUND

Under PAL §1005(13), the Authority may allocate and sell directly or by sale for resale, 250 megawatts ('MW') of Expansion Power ('EP') and 445 MW of Replacement Power ('RP') to businesses located within 30 miles of the Niagara Power Project, provided that the amount of EP allocated to businesses in Chautauqua County on January 1, 1987 shall continue to be allocated in such county. Under PAL §1005(13), the Authority may allocate and sell directly or by sale for resale, 490 MW of PP to businesses located in Jefferson, Franklin and St. Lawrence Counties.

At their meeting on December 16, 2014, the Trustees awarded an allocation of 4,000 kW of PP to St. Lawrence Zinc Company, LLC as described in Exhibit '4b i-A.' At this meeting, the Trustees also authorized a public hearing on a contract for the sale of this allocation pursuant to PAL §1009.

At their meeting on September 29, 2015, the Trustees awarded an allocation of 300 kW of PP to New York Air Brake LLC as described in Exhibit '4b i-A.' At this meeting, the Trustees also authorized a public hearing on a contract for the sale of this allocation pursuant to PAL §1009.

The Contracts before the Board would provide for the sale of these allocations to the Companies. The sale of these allocations would be made under a direct sale arrangement. Transmission and delivery service would be provided by the Companies' local utility in accordance with the utility's Public Service Commission-filed delivery service tariff. The following is a summary of some pertinent provisions of the Contracts:

- The Contracts would provide for the direct billing of all production charges (*i.e.* demand and energy) as well as all New York Independent System Operator, Inc. ('NYISO') charges, plus taxes or any other required assessments, as set forth in the Trustee approved Service Tariff-10 ('ST-10').
- The Contracts include the Companies' agreed-upon commitments with respect to employment, power utilization and capital investments. The Authority would retain the right to reduce or terminate the allocation if employment, power utilization, or capital investment commitments are not met.

- The Contracts provide for the sale of additional allocations of PP to the Companies in appropriate circumstances by incorporating new allocations into Schedule A of the Contracts. The Trustees approved this convention in the 2010 long-term extension contract for hydropower, which simplifies contract administration.
- To accommodate non-payment risk that could result from the direct billing arrangement with the Authority, the Contracts include commercially reasonable provisions concerning, among other things, the ability to require deposits in the event of a customer's failure to make payment for any two monthly bills. This is consistent with broader Authority contract template changes that incorporate direct billing, including the Authority's Recharge New York contracts forms.
- The Contracts require the Companies to perform an energy efficiency audit at least once within five years at the facility receiving the low-cost power to help ensure the hydropower is utilized as effectively as possible.

The Authority has discussed the Contracts with the Companies and has received their consent to the Contracts. The Companies have also acknowledged application of the appropriate tariff, discussed above, to their respective allocation.

As required by PAL §1009, when the Authority has reached agreement with its co-party on a power sale contract, it is required to transmit the proposed contract to the Governor and other elected officials and hold a public hearing on the proposed contract. At least 30-days' notice of the hearing must be given by publication once in each week during such period in each of six selected newspapers. Following the public hearing, the contract may be modified, if advisable.

Upon approval of the final proposed contract by the Authority, the Authority 'reports' the proposed contract, along with its recommendations and the public hearing record, to the Governor and other elected officials. Upon authorization of the Governor, the Authority may execute the contract.

DISCUSSION

As noted above, the Trustees, at their September 29, 2015 and December 16, 2014 meetings, awarded the aforementioned allocations to the Companies, and also authorized the Corporate Secretary to schedule public hearings on the Contracts.

A public hearing on Contracts was held on November 19, 2015 at the Frank S. McCullough, Jr. Hawkins Point Visitors' Center at the St. Lawrence/FDR Power Project in Massena. No oral statements were given at the public hearing. The official transcript of the public hearing and the written submittals are attached as Exhibit '4b i-C.'

RECOMMENDATION

The Manager – Business Power Allocations and Compliance recommends that the Trustees approve the Contracts for the sale of Preservation Power to New York Air Brake LLC and St. Lawrence Zinc Company, LLC and authorize the transmittal of the Contracts to the Governor for his review pursuant to PAL §1009.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the contracts for the sale of 300 kilowatts of Preservation Power to New York Air Brake LLC and 4,000 kilowatts of Preservation Power to St. Lawrence Zinc Company, LLC are in the public interest, and in accordance with Public Authorities Law §1009 should be submitted to the Governor for his review, and that a copy of each Contract, along with the record of the public hearing thereon, be forwarded to the Speaker of the Assembly, the Minority Leader of the Assembly, the Chairman of the Assembly Ways and Means Committee, the Temporary President of the Senate, the Minority Leader of the Senate and the Chairman of the Senate Finance Committee; and be it further

RESOLVED, That the Chairman and the Corporate Secretary be authorized and directed to execute such Contracts in the name of, and on behalf of the Authority if the Contracts are approved by the Governor; and be it further

RESOLVED, That the Senior Vice President – Economic Development and Energy Efficiency, or his designee, be, and hereby is, authorized, subject to the approval of the form thereof by the Executive Vice President and General Counsel, to negotiate and execute any and all documents necessary or desirable to implement the Contracts with the businesses as set forth in the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

**ii. Municipal and Rural Electric Cooperative
Economic Development Program –
Allocations to the Villages of Solvay and Arcade
and Delaware County Electric Cooperative**

The President and Chief Executive Officer submitted the following report:

SUMMARY

The Trustees are requested to approve three allocations, 200 kW, 100 kW, and 250 kW, of hydropower under the Municipal and Rural Electric Cooperative Economic Development Program ('EDP') to the Village of Solvay, the Village of Arcade, and the Delaware County Electric Cooperative, respectively.

BACKGROUND

The 1991 amendment to the power sales agreement between the Authority and each of the Municipal and Rural Electric Cooperative Systems set aside a block of 54 MW from the 752 MW of hydropower allocated to the systems for economic development in the systems' service territories. The total allocation was increased to 764.8 MW as a result of additional power resulting from the Niagara Project upgrade.

Power from this block can be allocated to individual systems to meet the increased electric load resulting from eligible new or expanding businesses in their service area. Recommended allocations under the EDP are made using guidelines that were approved by the Trustees on September 23, 2008.

As of November 2015, more than 23 MW have been allocated. The Village of Solvay, the Village of Arcade, and the Delaware County Electric Cooperative have submitted applications for power under the Program for consideration by the Trustees.

DISCUSSION

Village of Solvay

An application has been submitted by the Village of Solvay to the Authority on behalf of Chemtrade Chemical Corporations. Chemtrade is one of the primary operating subsidiaries of Canada-based Chemtrade Logistics Income Fund, which operates a diversified business providing industrial chemicals and services to customers in North America and around the world. Chemtrade's plant in Syracuse, NY is a large producer of Sodium Nitrite which is sold to its customers in the U.S. and globally. In order to remain competitive, Chemtrade represents that it must expand its Potassium Chloride production division. In addition to the Syracuse, NY site, Chemtrade is also considering an alternative project site in Midlothian, TX where the company is already producing Potassium Chloride.

The expansion at the Syracuse, NY site would provide increased workspace to house machinery and equipment to produce the aforementioned Potassium Chloride line. Production of the Sodium Nitrite product line would continue unabated. The expansion would include construction of a new, 45,000 square-foot facility. It would create 29 new jobs by the year 2017, in addition to the 30 jobs currently at the facility, resulting in a total of 59 jobs.

The expansion is expected to include a capital expenditure in excess of \$21 million which includes construction, machinery and equipment, training, and site preparation. In addition, it would add approximately 300 kW of new incremental load to the Village of Solvay's system load.

Under NYPA's EDP guidelines, Chemtrade's proposal is an eligible business expansion because Chemtrade qualifies as a manufacturer that is expanding its facilities in the Solvay service territory. In

Chemtrade's case, it produces goods that are re-sold to downstream customers in the chemical processing industry. Under the program, the first 100 kW allocated will be 100% hydropower and any additional kW will be 50% hydropower and 50% incremental power, making this EDP allocation award 200 kW.

It is recommended that the Trustees approve an allocation of 200 kW of Municipal and Rural Electric Cooperative Economic Development Program power to the Village of Solway on behalf of Chemtrade Chemical Corporations. The EDP guidelines require that a minimum of 50 jobs per MW of allocated hydropower should be attained; this allocation exceeds the aforementioned guidelines.

Village of Arcade

An application has been submitted by the Village of Arcade to the Authority on behalf of Base Technologies. Located in Arcade, NY, Base Technologies is a subsidiary of Gowanda Holdings LLC based in Gowanda, NY and was formed in 2001. Base Technologies is an established manufacturer of electric components. Base Technologies is growing its market share in the defense, medical, aerospace, and communications markets, and is poised to expand its operations in Arcade, NY.

With the intent of continuing to grow its business, Base Technologies has recently acquired two out-of-state electronic components companies, one in California, and one in Illinois. This will result in Base Technologies moving that production to the company's Arcade location. To account for this increased production capacity, the company seeks to build a 27,000 square-foot expansion space to house the new operations. The cost of this expansion is estimated to be approximately \$600,000.

Currently, Base Technologies employs 51 full-time employees in the local community. As a result of this expansion, the company will be adding another 40 jobs over the next three years for a total of 91 jobs. These are well-paying jobs that are important to the local economy. The expansion will add approximately 100 kW of new incremental load to the Village of Arcade's system load.

NYPA's EDP guidelines classify this as an eligible business expansion because Base Technologies is a manufacturer that is expanding its facilities in the Arcade service territory. Base Technologies provides electric components to other industries. Under the program, the first 100 kW allocated will be 100% hydropower and any additional kW at 50% hydropower and 50% incremental power. This is a 100 kW allocation, so there would be no need for an incremental power consideration. The proposed EDP allocation award is 100 kW.

It is recommended that the Trustees approve an allocation of 100 kW of Municipal and Rural Electric Cooperative Economic Development Program power to the Village of Arcade on behalf of Base Technologies. The EDP guidelines require that a minimum of 50 jobs per MW of allocated hydropower should be attained; this allocation exceeds the aforementioned guidelines.

Delaware County Electric Cooperative

An application has been submitted by Delaware County Electric Cooperative on behalf of Sportsfield Specialty Inc. ('Sportsfield'). Since 1998, Sportsfield has been headquartered in Delhi, NY and has been an innovative industry leader in the manufacturing and sale of sports construction equipment for high school, college, and professional level sporting competition. The company produces a wide array of sporting equipment such as football goalposts, baseball field wall padding, track hurdles, and many other products. With such a wide variety of product offerings, Sportsfield is a market leader in the United States and is rapidly growing its market share. Sportsfield's customers include 23 National Football League stadiums, Yankee Stadium, and Gonzaga University. The company is a sizeable and important employer in the local Delhi area with the potential for future expansion and job creation.

In response to its business growth, Sportsfield is looking to expand its operations. Sportsfield is planning to build a new, 57,000 square-foot manufacturing facility at the existing property which will be

adjacent to its current facility. This additional facility will be used for production needs that have exceeded the capacity of the existing facility.

The expansion is scheduled to add 37 new jobs to the 68 jobs that the company currently supports in the community, for a total of 105 jobs. The expansion will add approximately 400 kW of new incremental load to the Delaware County Electric Cooperative system.

The expansion will cost approximately \$8 million including construction and equipment. Sportsfield participates in a Minority Women-Owned Business Enterprise program for its suppliers for the construction project.

NYPA EDP guidelines classify this proposal as an eligible business expansion because Sportsfield is a manufacturer expanding its facilities in the Delaware County Electric Cooperative service territory. Under the program, the first 100 kW allocated will be 100% hydropower and any additional kW at 50% hydropower and 50% incremental power, making this EDP allocation award 250 kW.

It is recommended that the Trustees approve an allocation of 250 kW of Municipal and Rural Electric Cooperative Economic Development Program power to Delaware County Electric Cooperative on behalf of Sportsfield Specialty Inc. The EDP guidelines require that a minimum of 50 jobs per MW of allocated hydropower should be attained; this allocation exceeds the aforementioned guidelines.

RECOMMENDATION

The Vice President – Marketing recommends that the Trustees approve the allocations of 200 kW, 100 kW, and 250 kW, respectively, under the Municipal and Rural Electric Cooperative Economic Development Program to the Village of Solvay, the Village of Arcade, and the Delaware County Electric Cooperative, in accordance with the above report.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the allocations of hydropower to the Village of Solvay, the Village of Arcade, and the Delaware County Electric Cooperative under the Municipal and Rural Electric Cooperative Economic Development Program are hereby approved as set forth in the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That the Senior Vice President of Economic Development and Energy Efficiency, or his designee, be, and hereby is, authorized to execute any and all documents necessary or desirable to effectuate this allocation, subject to the approval of the form thereof by the Executive Vice President and General Counsel; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and

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execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

c. Procurement (Services) Contracts:

**i. Procurement (Services) and Other Contracts –
Business Units and Facilities –
Awards, Extensions and/or Additional Funding**

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees are requested to approve the award and funding of the multiyear procurement (services) and other contracts listed in Exhibit ‘4c i-A,’ as well as the continuation and/or funding of the procurement (services) contracts listed in Exhibit ‘4c i-B,’ in support of projects and programs for the Authority’s Business Units/Departments and Facilities. Detailed explanations of the recommended awards and extensions, including the nature of such services, the bases for the new awards if other than to the lowest-priced bidders and the intended duration of such contracts, or the reasons for extension and the projected expiration dates, are set forth in the discussion below.

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.

The Authority’s Expenditure Authorization Procedures (‘EAPs’) require the Trustees’ approval for the award of non-personal services, construction, equipment purchase or non-procurement contracts in excess of \$3 million, as well as personal services contracts in excess of \$1 million if low bidder, or \$500,000 if sole-source, single-source or non-low bidder.

The Authority’s EAPs also require the Trustees’ approval when the cumulative change- order value of a personal services contract exceeds \$500,000, or when the cumulative change-order value of a non-personal services, construction, equipment purchase, or non-procurement contract exceeds the greater of \$1 million or 25% of the originally approved contract amount not to exceed \$3 million.

DISCUSSION

Awards

The terms of these contracts will be more than one year; therefore, the Trustees’ approval is required. Except as noted, all of these contracts contain provisions allowing the Authority to terminate the services for the Authority’s convenience, without liability other than paying for acceptable services rendered to the effective date of termination. Approval is also requested for funding all contracts, which range in estimated value from \$70,000 to \$8 million. Except as noted, these contract awards do not obligate the Authority to a specific level of personnel resources or expenditures.

The issuance of multiyear contracts is recommended from both cost and efficiency standpoints. In many cases, reduced prices can be negotiated for these long-term contracts. Since these services are typically required on a continuous basis, it is more efficient to award long-term contracts than to rebid these services annually.

Extensions

Although the firms identified in Exhibit ‘4c i-B’ have provided effective services, the issues or projects requiring these services have not been resolved or completed and the need exists for continuing these contracts. The Trustees’ approval is required because the terms of these contracts will exceed one

year including the extension, the term of extension of these contracts will exceed one year and/or because the cumulative change-order limits will exceed the levels authorized by the EAPs in forthcoming change orders. The subject contracts contain provisions allowing the Authority to terminate the services at the Authority's convenience, without liability other than paying for acceptable services rendered to the effective date of termination. These contract extensions do not obligate the Authority to a specific level of personnel resources or expenditures.

Extension of the contracts identified in Exhibit '4c i-B' is requested for one or more of the following reasons: (1) additional time is required to complete the current contractual work scope or additional services related to the original work scope; (2) to accommodate an Authority or external regulatory agency schedule change that has delayed, reprioritized or otherwise suspended required services; (3) the original consultant is uniquely qualified to perform services and/or continue its presence and rebidding would not be practical or (4) the contractor provides a proprietary technology or specialized equipment, at reasonable negotiated rates, that the Authority needs to continue until a permanent system is put in place.

The following is a detailed summary of each recommended contract award and extension.

Contract Awards in Support of Business Units/Departments and Facilities:

Economic Development & Energy Efficiency

Customer Energy Solutions

The K-Solar program is the largest multiagency solar-buying consortium project in the United States. Under this program, and consistent with Governor Cuomo's NY-Sun Initiative, the Authority serves as an energy advisor to public and non-profit K-12 schools in New York State ('NYS'), assisting them in the complex process of entering into solar Power Purchase Agreements with solar developers. As the result of a previous competitive bid, Authority staff had recommended two solar developers to school districts throughout the state. The program has resulted in a substantial reduction in the potential cost of solar energy in NYS. Education is an essential component of the K-Solar Program. In addition to the aforementioned assistance, the Authority has also agreed to assist the New York State Education Department ('NYSED') by providing for and funding the planning and delivery of 40 professional development workshops for teachers in school districts throughout NYS. As further set forth in the Award Recommendation documents, staff recommends the award of a contract to **CEC Stuyvesant Cove, Inc. dba Solar One** on a single-source basis. Solar One, a leading New York City-based nonprofit education organization specializing in environmental and sustainability matters, is highly qualified and possesses the requisite experience and expertise needed to develop and implement the workshops and STEM-based curricula (in science, technology, engineering and math) for the school districts. Furthermore, both of the previously selected solar developers had collaborated with Solar One for the educational component of their proposals. Due to the need to commence services, interim approval was obtained to award a contract to **Solar One (4600003071)**, effective November 23, 2015, in the initial award amount of \$75,000, subject to the Trustees' ratification and approval at their next quarterly meeting, in accordance with the Authority's Guidelines for Procurement Contracts and EAPs. The Trustees are hereby requested to ratify and approve award of the subject contract for an intended term of up to three years. Approval is also requested for the total amount expected to be expended for the term of the contract, \$250,000.

Marketing Analysis & Administration

The contract with **KEMA, Inc., a U.S. subsidiary of DNV GL (Q15-5937FS; PO# TBA)** would provide for load research and evaluation consulting services to assist the Authority in determining the Cost of Service for the Southeastern New York ('SENY') Governmental Customer base, as well as energy/capacity market analysis activities and services, as may be requested by the Authority. Per Article

VI of the Authority's Long-Term Agreement with SENY Governmental Customers, the Authority is obligated to conduct an annual Load Study for the purpose of developing the annual rates for this customer group. To that end, bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 72 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. One proposal was received and evaluated, as further set forth in the Award Recommendation documents. (Reasons for the lack of other proposals include, but are not limited to: it was not their scope of work, they were unable to submit a competitive bid at this time or they downloaded the bid documents for information purposes only.) KEMA's proposal demonstrated the firm's in-house strengths and abilities to provide high-quality load research and evaluation services to the Authority. Furthermore, KEMA is a well-respected firm with a proven track record, as demonstrated by its performance of such work for the Authority under an existing contract (e.g., by providing unbiased independent analysis of all customer contributions to the overall loads as well as the Authority's costs). Additionally, a new award to KEMA would preclude the significant start-up costs associated with developing the models and software programming required to perform the Load Study for the Authority, resulting in a cost savings to the customer base. Based on the foregoing, staff recommends the award of a new contract to KEMA, which is eminently qualified to provide such services, meets or exceeds the bid requirements and has provided satisfactory services under the existing contract for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$3 million. It should be noted that all costs associated with the annual Load Study will be recovered by the Authority.

Enterprise Shared Services

Corporate Support Services

The contract with **A & A Maintenance Enterprise, Inc. ('A & A') (Q15-5965TB; PO# TBA)** would provide for janitorial services for the Authority's Clarence D. Rappleyea Building (White Plains Office), including tenant space and parking garage. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 71 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Seven proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of a contract to A & A, the lowest-priced evaluated bidder, which is qualified to perform such services, meets the bid requirements and has provided satisfactory services under the existing contract for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$6,837,660 (based on an estimated usage factor applied to the quoted rates).

The contracts with **B.A.C. Electrical Construction Co., Inc. ('B.A.C.') and Healy Electric Contracting, Inc. ('Healy') (Q15-5916TB; PO#s TBA)** would provide for on-call general electrical services for the Clarence D. Rappleyea Building, garage and grounds. Services include furnishing all labor and materials, equipment, tools, transportation and supervision for demolishing, removing, erecting, installing, connecting, testing, troubleshooting and placing in service various electrical apparatus in the building and parking garage or on the grounds, in accordance with all applicable federal, state and local laws, codes and ordinances, as well as industry standards. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 64 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Three proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of a contract to two firms, B.A.C. and Healy, the two lowest-priced evaluated bidders, which are qualified to perform such services, meet the bid requirements and have provided satisfactory services under existing contracts for such work. The new contracts would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval,

which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$1.2 million (based on an estimated usage factor applied to the quoted rates).

The contract with **Turboprop East, Inc. ('Turboprop') (Q15-5963TB; PO# TBA)** would provide for maintenance of the Authority's Beechcraft King Air 350 series (or equivalent) aircraft, in order to ensure its continued safe and reliable operation. Services include scheduled inspections at prescribed intervals specified per the King Air series maintenance manual, unscheduled maintenance (including Aircraft On Ground field support), component overhaul, avionics installation, troubleshooting and repairs, as necessary and in compliance with all applicable federal and state regulations and requirements, as well as industry standards. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 22 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Three proposals were received and evaluated, as further set forth in the Award Recommendation documents. Bids were evaluated on experience, location and price (labor costs, escalation and material mark-ups). Staff also calculated a total estimated cost for each bidder by applying an estimated usage factor to the quoted rates. Based on the age of the aircraft, engine overhauls are expected to comprise a significant part of the work to be performed, as specified in the bid requirements. Two of the three proposals were deemed to be either non-responsive or not fully responsive with respect to providing the engine overhaul information requested. Based on the foregoing, staff recommends the award of a contract to Turboprop, the only bidder to submit an acceptable proposal, which fully meets the bid requirements, is qualified to perform such services and has provided satisfactory services under the existing contract for such work. The new contract would become effective on or about April 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$2.5 million.

Operations / Operations Support Services

Power Generation / Support Services

The contracts with **Bay Crane Service, Inc. ('Bay Crane') and Gencon Construction Co. ('Gencon') (Q15-5940JT; PO#s TBA)** would provide for crane rental (ranging from 45 to 135 ton capacity) with operator services for the Authority's plants in the Southeastern New York ('SENY') Region, on an 'as needed' basis. Due to the accelerated rate of expenditures under the existing contracts for such work, these services were rebid before the end of the approved contract term. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 18 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Two proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of contracts to both bidders, Bay Crane and Gencon, which are qualified to perform such work, meet the bid requirements and have provided satisfactory services under existing contracts for such work. Awarding contracts to both firms would allow the Authority's SENY facilities to call upon both companies to provide competitive proposals for rigging and critical lift projects. The new contracts would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the aggregate total amount expected to be expended for the term of the contracts, \$5 million. Such contracts will be monitored for utilization levels, available approved funding and combined total expenditures.

The contract with **BRG Machinery Consulting, LLC ('BRG') (Q15-5947JT; PO# TBA)** would provide for consulting services to support all major rotating machinery and the Nuovo Pignone centrifugal gas compressors at the Authority's plants in the Southeastern New York ('SENY') Region. Such services include, but are not limited to, providing highly specialized technical expertise on- and off-site, as needed, during scheduled periodic maintenance of such equipment (performed by another contractor under a separate competitively bid contract), as well as troubleshooting, making recommendations, diagnosing and resolving or repairing equipment failures on an emergency or other 'as needed' basis. Due to the

accelerated rate of expenditures under the existing contract for such work, these services were rebid before the end of the approved contract term. To that end, bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 23 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. One proposal was received and evaluated, as further set forth in the Award Recommendation documents. (Reasons for the lack of other proposals include, but are not limited to: their key personnel / expertise were unavailable at this time, it was not their scope of work or they downloaded the bid documents for information purposes only.) Based on its strong analytical expertise and technology coupled with practical experience, staff recommends the award of a contract to BRG, the technically qualified bidder, which is capable of performing the work, compliant with the bid requirements and has provided satisfactory services under previous contracts for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$5 million.

Due to the need to commence services, interim approval was obtained to award a contract to **IEM Energy Consultants, Inc. ('IEM') (4600003069)**, effective November 23, 2015, in the initial award amount of \$100,000, subject to the Trustees' ratification and approval at their next scheduled meeting, in accordance with the Authority's Guidelines for Procurement Contracts and EAPs. Such contract provides for consulting services in connection with the development of a new Long-Term Service Agreement ('LTSA') for the 500 MW Combined Cycle Plant, as well as assistance for other plants in the SENY region, as may be required. There is currently an LTSA in place until October 2018, after the second Steam Turbine Major Outage or sooner, if the Authority determines that the implementation of new technologies is feasible and is in the best operational and financial interest of the Authority. In order to obtain the best maintenance agreement for the 500 MW plant's combustion and steam turbines and the associated equipment, Authority staff has started identifying additional areas for inclusion in the new LTSA. Given the complexity of this type of document, the Authority is seeking the assistance of IEM with developing the scope of work (including new potential areas and options) and incorporating industry standards in order to prepare a Request for Proposals ('RFP') for the new LTSA. As further set forth in the Award Recommendation documents, staff recommends the award of a contract to IEM on a single-source basis to assist the Authority with RFP development (including vendor qualification), bid evaluation / analysis and contract negotiations, in order to best meet the Authority's needs and goals and to protect our interests. IEM has the requisite knowledge and experience with the equipment, technologies, upgrades and industrywide practices for the LTSA, is uniquely qualified to perform such services and has provided satisfactory services under a prior contract for such work. Additionally, this firm has dealt with most of the companies in the United States and worldwide that provide LTSA services, making the firm's contribution to the development of the 500 MW plant's RFP not only extremely valuable, but also necessary. Furthermore, IEM has demonstrated its expertise in the past with the preparation and evaluation of the current LTSA and offers the experience and hindsight of lessons learned during that process. The Trustees are hereby requested to ratify and approve award of the subject contract for an intended term of up to five years. Approval is also requested for the total amount expected to be expended for the term of the contract, \$750,000.

The contract with **Russell Reid Waste Hauling and Disposal Service Co., Inc. ('Russell Reid') (Q15-5961KS; PO# TBA)** would provide for supervision, labor, materials and equipment to load, transport and dispose of 7,000-60,000 gallons (per request) of wastewater from a 100,000-gallon storage tank and up to 1,000 gallons of non-toxic biomass sludge from a holding tank at the Richard M. Flynn Power Plant ('Flynn') located in Holtsville, NY to the Suffolk County Sewage Treatment Plant at Bergen Point in West Babylon, NY. All phases of the work must be performed in accordance with all applicable rules and regulations, such as valid transporter and waste disposal permits. To that end, bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 42 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Four proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of a contract to Russell Reid, the lowest-priced bidder, which is qualified to provide such services, meets the bid requirements and has provided

satisfactory services under a prior contract for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$1.5 million.

The contract with **SimplexGrinnell LLP, a subsidiary of Tyco International (RFQ 6000160856; PO# TBA)** would provide for inspection and testing services for fire protection systems at the Niagara Power Project, in accordance with all applicable codes. Services include, but are not limited to, all labor, supervision, equipment and materials to perform quarterly and annual tests and inspections of the Project's fire protection systems, as well as semiannual inspection and testing of the fire suppression systems on two tugboats with ice-breaking capabilities, the Latham and JonCaire II. To that end, bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 32 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Three proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of a contract to Simplex, the lowest-priced evaluated bidder, which is qualified to perform such services, meets the bid requirements and has provided satisfactory services under a prior contract for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to four years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$70,000.

Environment, Health & Safety ('EH&S')

Federal and State regulations attach joint and several liabilities to the generators of hazardous wastes, therefore the Authority, as a waste generator, continues to share any liability for such waste even though a vendor has accepted it for disposal. In fact, the Authority, in the worst case, could be held to share liability for all other non-Authority waste found at such vendor's site, if the vendor did not manage the site properly. Authority operating projects, through the course of their normal operating practices, generate hazardous wastes, universal wastes, used oil and liquid industrial wastes that may contain hazardous substances. Authority offices and operating projects also generate non-functioning and obsolete electronic equipment, including 'e-Waste' that can contain materials that may include hazardous substances (e.g., lead solder, heavy metals in circuit boards, mercury switches and relays). The Authority manages this equipment at the end of its useful life for recycling in accordance with an exemption provided by the hazardous waste regulations for materials being recycled. In order to act in an environmentally responsible manner and to limit the Authority's potential long-term liability for costly remediation of contaminated disposal facilities and associated litigation, the EH&S Division has a policy of review, inspection and evaluation of hazardous waste treatment, disposal, recycling and transportation vendors and facilities. The purpose of such audits is to determine compliance with applicable laws and regulations, and to assess the level of risk of site contamination, which could result from the facility's management practices. Facility approval is based on an evaluation of these elements and subsequent determination by EH&S that the potential for harm to the environment from facility operations is low, and therefore, that risk of liability to the Authority is minimized.

The contracts with **Clean Harbors Environmental Services, Inc. ('Clean Harbors'), Cycle Chem, Inc., Tradebe Treatment and Recycling Northeast LLC ('Tradebe') and Veolia ES Technical Solutions LLC ('Veolia') (Q15-5823JR, Q15-5868JR and Q15-5825JR; PO#s TBA)** would provide for waste disposal and recycling services, including transportation of DOT-regulated hazardous materials, hazardous waste, universal waste and industrial waste. To that end, bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by a total of 149 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. A total of 9 proposals were received and evaluated, as further set forth in the Award Recommendation documents. (Since only two bids were received in response to the initial Request for Proposals ('RFP') for waste disposal and recycling services, staff modified certain requirements and issued a second RFP

for these services. A third RFP was issued for related transportation services. However, due to the duplication of responses from some of the same companies responding to all three RFPs, it was decided that the award be combined into a single set of contracts covering both services.) Based on a thorough, detailed evaluation of the proposals, as well as online searches, desktop screening and on-site audits or interview updates, staff recommends the award of contracts to all four aforementioned responding waste disposal bidders, which are technically qualified to perform such work, commercially acceptable and meet the bid requirements. The recommended firms have the experience, qualifications and breadth of expertise to respond quickly and handle multiple tasks, thereby ensuring the Authority of adequate resources. The award of contracts to multiple firms would also benefit the Authority by providing more flexibility and cost-effective options, and would allow the Authority to obtain competitive proposals and award tasks to the firm/s with the requisite expertise, depending on the schedule and specific requirements. It should be noted that two of the recommended firms have provided satisfactory services under the existing contracts for such work. The new contracts would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. (The initial term of the proposed award to Cycle Chem would be three years, with an option to extend for up to two additional years.) Approval is also requested for the aggregate total amount expected to be expended for the term of the contracts, \$8 million. Such contracts will be monitored for utilization levels, available approved funding and combined total expenditures.

The contract with **Veolia ES Technical Solutions, LLC ('Veolia') (Q15-5826JR; PO# TBA)** would provide for asset management and recycling of the Authority's used computers and other electronic equipment, on an 'as needed' basis. Services include pick-up, loading, transport, reselling and/or recycling of used electronic equipment including, but not limited to: computers, cathode ray tubes, monitors, central processing units, typewriters, keyboards, uninterruptible power supplies, televisions, VCRs, DVD players, scanners, satellite radios, telephones, base stations, bar code receivers, network switches, routers and relays. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 52 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Six proposals were received and evaluated, as further set forth in the Award Recommendation documents. Based on an initial review, four proposals were eliminated from further consideration (one was due to higher/non-competitive pricing and the other three did not fully meet the Authority's bid requirements). The two remaining proposals, as well as each Bidder's operations and proposed facilities, were evaluated in greater detail. Based on the foregoing, staff recommends the award of a contract to Veolia, which was determined to be more technically qualified to provide such services, meets the bid requirements and has provided satisfactory services under the existing contract for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$300,000.

Information Technology ('IT')

The contracts with **BlueCielo ECM Solutions, Inc. ('BlueCielo') and Hagerman & Company, Inc. ('Hagerman') (Q15-5932SR; PO#s TBA)** would provide for consulting services to support BlueCielo Meridian, an engineering content management software, for Meridian upgrade, extension modification and maintenance, troubleshooting, issue resolution, integration of Meridian into MAXIMO, component installation and configuration, testing, training, project management, and other services, as may be required. Such software provides a safe and secure environment for electronic design document files, including revision management and workflow support for projects. The electronic management system incorporates a protected 'vault' concept, which optimizes the Authority's business processes related to the creation, collaboration and distribution of engineering documents and drawings. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 53 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Two proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of contracts to both firms, which are

technically qualified to perform such work and meet the bid requirements. The new contracts would become effective on or about January 1, 2016, for an intended term of up to three years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the aggregate total amount expected to be expended for the term of the contracts, \$2 million. Such contracts will be monitored for utilization levels, available approved funding and combined total expenditures.

In 2003, the Authority implemented a program of managed network security monitoring services, in response to mandates by the North American Electric Reliability Council ('NERC') and the Federal Energy Regulatory Commission ('FERC'), as well as an internal study on network security vulnerability. Services include, but are not limited to, providing managed security monitoring of the Authority's computer network assets on a 24/7/365 basis and implementing a system to monitor, diagnose, notify, interpret and report important system events throughout the network. The vendor will monitor and correlate system, audit and event logs and alerts to detect irregular activity and identify unauthorized behavior, malicious hacks and denials of service, including insider attacks and anomalies and trend analyses. The contract with **Center for Internet Security, Inc. ('CIS') (Q15-5905SR; PO# TBA)** would provide for such managed security services pertaining to cyber security monitoring. Services include, but are not limited to, monitoring of Authority firewalls, routers, networks, switches and various server or client endpoint computers in various functional areas within IT and Operational Technology ('OT') networks. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 117 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Four proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of a contract to CIS, the most technically qualified bidder, which meets the bid requirements and has provided satisfactory services under a prior contract for such work. The new contract would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the total amount expected to be expended for the term of the contract, \$5.2 million.

The contracts with **Ernst & Young LLP ('EY'), Interloc Solutions, Inc. ('Interloc'), Starboard Consulting, LLC ('Starboard') and Total Resource Management, Inc. ('TRM') (Q15-5958SR; PO#s TBA)** would provide for consulting services to support MAXIMO, a work management/asset management software solution used by the Authority to interface with SAP, the existing Enterprise Resource Planning system ('ERP'). Such services would support MAXIMO applications in the following functional areas: advisory and consulting services, system integration and implementation services, enhancing start centers, enhancing KPIs, and end-to-end consulting services. Bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 114 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Seven proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of contracts to the four aforementioned firms, the most technically qualified bidders, which meet the bid requirements. The recommended firms have the experience, qualifications and breadth of expertise to respond quickly and handle multiple tasks, thereby ensuring the Authority of adequate resources. The award of contracts to multiple firms would also benefit the Authority by providing more flexibility and cost-effective options, and would allow the Authority to obtain competitive proposals and award tasks to the firm/s with the requisite expertise, depending on the schedule and specific requirements. The contracts would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the aggregate total amount expected to be expended for the term of the contracts, \$5 million. Such contracts will be monitored for utilization levels, available approved funding and combined total expenditures.

The contracts with **Altran Solutions Corp. ('Altran'), Ernst & Young LLP ('EY'), Garnet River LLC, Gotham Technology Group LLC ('Gotham'), GreyCastle Security LLC ('GreyCastle'), JANUS Software, Inc. dba JANUS Associates ('JANUS'), KMQ Enterprises, Inc. dba Tailwind Associates ('Tailwind'), PA Consulting Group, Inc. ('PA Consulting') and Presidio Networked Solutions Group LLC ('Presidio') (Q15-5957WC; PO#s TBA)** would provide for cyber security consulting services to the

Authority in the following areas: risk assessments, security assessments, penetration testing, security awareness services, incident response services, and security tools deployment assistance. To that end, bid documents were developed by staff and were downloaded electronically from the Authority's Procurement website by 109 firms / entities, including those that may have responded to a notice in the New York State *Contract Reporter*. Forty proposals were received and evaluated, as further set forth in the Award Recommendation documents. Staff recommends the award of contracts to the nine aforementioned firms, the most technically qualified bidders, which meet the bid requirements. The overall objective is to establish a pool of qualified cyber security consulting resources for protecting Authority critical cyber assets from attacks, as well as the ability to achieve and/or maintain compliance with federal and regulatory requirements. The recommended firms have the experience, qualifications and breadth of expertise to respond quickly and handle multiple tasks, thereby ensuring the Authority of adequate resources. The award of contracts to multiple firms would also benefit the Authority by providing more flexibility and cost-effective options, and would allow the Authority to obtain competitive proposals and award tasks to the firm/s with the requisite expertise, depending on the schedule and specific requirements. The contracts would become effective on or about January 1, 2016, for an intended term of up to five years, subject to the Trustees' approval, which is hereby requested. Approval is also requested for the aggregate total amount expected to be expended for the term of the contracts, \$4 million. Such contracts will be monitored for utilization levels, available approved funding and combined total expenditures. It should be noted that Garnet, JANUS and Tailwind are New York State-certified Women-owned Business Enterprises ('WBEs').

Extensions and/or Additional Funding Requests

Operations / Operations Support Services

IT / Power Generation / Support Services

At their meeting of March 25, 2014, the Trustees approved the award of a competitively bid contract to **Time Warner Cable, Inc. ('TWC') (4600002790)** to implement a new Operations Network providing for fiber optic cabling and recurring Ethernet service for the Authority's Operations Network, for a term of up to five years, in the amount of \$3.78 million. The subject contract provides for new communications infrastructure to connect the Authority's 60 operational locations to the existing TWC Operational Network, which include Authority offsite operational facilities, the New York Independent System Operator and other utilities. Services include, but are not limited to, providing high-speed network connectivity over a secured switch network based on fiber optics to support all operational communications including Supervisory Control and Data Acquisition ('SCADA'), Telemetry, Protective Relay, Security and Control Room communications. The original award, issued pursuant to a New York State Office of General Services contract for telecommunications services, became effective on July 1, 2014 for a five-year term (which included all of the build-outs for circuits and connectivity recurring charges). The amount of time required for completion of such build-outs in certain areas was underestimated. A five-year extension is now requested in order to complete the build-outs and to reduce the charges associated with the build-out of future locations, as well as redundant paths at critical sites, as approved by the Authority. Such extension will reduce the Authority's portion of the non-recurring construction costs for the overall project, while ensuring connectivity and reliable service. The current Target Value of the contract is \$3.78 million; staff anticipates that additional funding in the amount of \$2.72 million will be required for the extended term. The Trustees are requested to approve extension of the subject contract through June 30, 2024, as well as the additional funding requested, thereby increasing the approved total contract amount to \$6.5 million.

The contract with **Tower Maintenance Corp. ('TMC') (4500251164)** provides for the surface preparation, priming and field coating of 110 Authority steel transmission towers / structures in the St. Lawrence region. The original award, which was competitively bid, became effective on October 31, 2014 for a term of up to one year, in the amount of \$2,059,450. Such work requires specific temperature and humidity and is not permitted when the tower is wet, in order to ensure worker safety. Delays

resulting from weather-related conditions impacted the completion of all project activities. An extension of up to eight months was subsequently authorized in accordance with the Authority's Guidelines for Procurement Contracts ('Guidelines') and EAPs, subject to the Trustees ratifying such action as soon as practicable. This extension would allow sufficient time to complete work related to punch list items, including Dry Film Thickness measurements, as well as waste removal and demobilization by the contractor, and other project closeout activities, as may be required. An additional \$5,189 was also authorized in accordance with the Guidelines and EAPs. The current contract amount is \$2,064,639; staff anticipates that no additional funding will be required for the extended term. The Trustees are requested to ratify and approve extension of the subject contract through June 30, 2016, with no additional funding requested. It should be noted that TMC is a NYS-certified WBE.

FISCAL INFORMATION

Funds required to support contract services for various Business Units/Departments and Facilities have been included in the 2016 O&M Budget submitted for approval. Funds for subsequent years, where applicable, will be included in the budget submittals for those years. Payment will be made from the Operating Fund.

Funds required to support contract services for capital projects have been included as part of the approved capital expenditures for those projects and will be disbursed from the Capital Fund in accordance with the project's Capital Expenditure Authorization Request.

RECOMMENDATION

The Senior Vice President – Operations Support Services and Chief Engineer, the Senior Vice President – Power Generation, the Assistant General Counsel – Contracts, Licensing & Environmental, the Vice President – Environment, Health & Safety, the Vice President – Project Management, the Vice President – Procurement, the Vice President – Engineering, the Vice President – Transmission, the Vice President – Information Technology / Chief Information Officer, the Vice President – Customer Energy Solutions, the Vice President – Enterprise Shared Services, the Director – Marketing Analysis & Administration, the Regional Manager – Western New York, the Regional Manager – Northern New York, the Regional Manager – Central New York and the Regional Manager – Southeastern New York recommend that the Trustees approve the award of multiyear procurement (services) contracts to the companies listed in Exhibit '4c i-A' and the extension and/or funding of the procurement (services) contracts listed in Exhibit '4c i-B,' for the purposes and in the amounts discussed within the item and/or listed in the respective exhibits.

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

The following resolution, as submitted by the President and Chief Executive Officer, was adopted with Trustee Flynn being recused from the vote as it relates to Time Warner Cable.

RESOLVED, That pursuant to the Guidelines for Procurement Contracts adopted by the Authority, the award and funding of the multiyear procurement services contracts set forth in Exhibit "4c i-A," attached hereto, are hereby approved for the period of time indicated, in the amounts and for the purposes listed therein, as recommended in the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That pursuant to the Guidelines for Procurement Contracts adopted by the Authority, the contracts listed in Exhibit "4c i-B," attached hereto, are

hereby approved and extended for the period of time indicated, in the amounts and for the purposes listed therein, as recommended in the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

**ii. Procurement (Services) Contract – Engineering
for the SMART Path Moses-Adirondack 1&2
Rebuild Project – Contract Award**

The President and Chief Executive Officer submitted the following report:

SUMMARY

The Trustees are requested to approve funding and award of a competitively bid five-year personal service contract to Burns and McDonnell Consultants, Inc., of Kansas City, MO with a satellite office in Wallingford, CT, in the amount of \$5,375,651, to provide engineering services for the SMART Path Moses-Adirondack Lines 1 & 2 Rebuild Project ('SMART Path' or 'Project'). The Project will replace the existing transmission lines MA1 and MA2 with 230 kV lines on double circuit steel monopole structures.

BACKGROUND

Section 2879 of the Public Authorities Law, the Authority's Guidelines for Procurement Contracts, and the Authority's Expenditure Authorization Procedures require the Trustees' approval for personal services contracts in excess of \$1 million if low bidder and/or whose term exceeds one year in duration.

The Engineering for SMART Path is expected to have a duration of up to five years as the entire Project is expected to be completed by 2023. The Trustees approved funding to proceed with obtaining the necessary environmental permits and licensing certificates at their September 2015 meeting.

The existing 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 85 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 77 miles are attached onto 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 MA 1&2 lines use old technology that is costly to maintain and prone to experiencing failures due to equipment fatigue. The lines have also reached the end of their useful life.

The MA 1&2 lines were originally constructed with wood pole H-frame structures that require periodic replacement. At their July 30, 2015 Meeting, the Trustees approved funds to replace wooden poles, as needed, on the MA 1&2 and the Moses-Plattsburgh lines.

The MA 1&2 lines continue to play an essential role in the reliability of the State's electrical grid, including system restoration (blackstart capability) and as a complement and back-up to the Authority's 765 kV transmission line.

The Authority performed a constructability assessment of the MA 1&2 lines and the study recommends that the line be rebuilt as follows: two 230 kV transmission lines consisting of new conductor installed on new, double circuit steel monopole structures on concrete caissons. The recommendation is based on lowest-cost, improved power flow, potential for future growth, and minimal adverse environmental impact. The Project, as proposed, will allow for an increased power flow of up to 200 MW along the MA 1&2 lines due to technological improvements. The double circuit steel monopole structure has been chosen due to low-cost, narrow footprint, increased durability, ease of maintenance, and beneficial constructability.

The Project will require the issuance of a Certificate of Environmental Compatibility and Public Need by the Public Service Commission ('PSC'), pursuant to Public Service Law Article VII, which requires studies, environmental assessments and public hearings.

DISCUSSION

The engineering services will include supporting the Public Service Law Article VII process, final design of the transmission line, and support during construction.

The Authority's Request for Proposals ('RFP'), Inquiry No. Q15-5959MH, was advertised in the New York State *Contract Reporter* on September 3, 2015, and ten proposals were received on October 13, 2015.

After an initial evaluation based on cost and compliance with technical bid requirements, three proposals were removed from further consideration due to unacceptable exceptions and/or being non-responsive. As further set forth in the award recommendation documents, the two lowest cost qualified proposals were evaluated in greater detail and compared. Of these two bidders, Burns & McDonnell's proposal appeared slightly higher [\$378,325]; however, it contained fewer technical exceptions and the estimated hours to be expended were higher. The proposal contained more details on the completion of the Environmental Management and Construction Plan as part of the scope and, overall, showed a better understanding and experience with the Article VII licensure process. Based on this and other factors related to office location and experience in New York State, Burns & McDonnell was deemed to be the lowest-cost, technically qualified bidder. The five highest priced proposals were not evaluated in greater detail.

RECOMMENDATION

The Senior Vice President and Chief Engineer – Operations Support Services, the Senior Vice President – Public Affairs and Business Development, the Vice President – Project and Business Development, the Vice President – Transmission, the Vice President – Procurement and the Director – Project Development and Licensing, recommend that the Trustees authorize funding and award of a contract to Burns and McDonnell Consultants, Inc., in the amount of \$5,375,651.00, to provide engineering services for the SMART Path Moses-Adirondack Lines 1&2 Rebuild Project.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, that pursuant to the Guidelines for Procurement Contracts adopted by the Authority and the Authority's Expenditure Authorization Procedures, approval is hereby granted to authorize the issuance of a competitively bid procurement contract to Burns and McDonnell Consultants, Inc., in the amount of \$5,375,651.00, to provide engineering services for the SMART Path Moses-Adirondack 1&2 Rebuild Project as recommended in the foregoing report of the President and Chief Executive Officer and as set forth below:

<u>Contractor</u>	<u>Contract Amount</u>
Burns and McDonnell Consultants, Inc. Kansas City, MO Q15-5959MH	<u>\$5,375,651.00</u>

AND BE IT FURTHER RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

**iii. Procurement (Services) Contract –
Crescent Power Plant – Tainter Gate and
Concrete Repair Project – Contract Award**

The President and Chief Executive Officer presented the following report:

SUMMARY

The Trustees are requested to approve a two-year contract award to CD Perry & Sons, Inc. ('CD Perry'), located in Troy, NY, in the amount of \$2.433 million (including two options) to repair the tainter gate and concrete wall at Crescent Small Hydroelectric Power Plant.

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.

The Authority's consultant, Kleinschmidt, issued an inspection report in December 2008; the report recommends recoating of the Crescent Plant's tainter gate within 5 to 10 years, repairing the freeze thaw deterioration and delamination in the vertical concrete side pier faces within the next 10 years, and filling the voids in the downstream retaining wall.

DISCUSSION

The Authority's Engineering group subsequently performed a thorough site inspection and detailed design work for the repair of the tainter gate and concrete wall.

The Authority issued a Request for Quotations (Q15-5890HM) in the New York State *Contract Reporter* and bid packages for the Crescent tainter gate and concrete wall repair on May 19, 2015. Three (3) proposals were received on July 7, 2015.

The proposals were reviewed by an evaluation committee comprising of staff from the Blenheim-Gilboa Project, Engineering, Procurement, and Project Management.

Due to an anticipated 2016 O&M budget constraint, a Post Bid Addendum was issued on September 16, 2015 for clarification and construction schedule changes that deferred some of the scope-of-work to 2017. Two of the original three bidders submitted their responses on October 16, 2015. The quote from CD Perry was \$380K lower than the one from DA Collins.

CD Perry will be responsible for providing all necessary equipment, tools, labor and supervision required to repair the tainter gate and concrete wall. CD Perry has satisfactorily performed numerous construction projects for the Authority in the past.

Payments associated with this project will be made from the Authority's O&M budget.

RECOMMENDATION

The Senior Vice President and Chief Engineer – Operations Support Services, the Vice President – Project Management, and the Vice President – Procurement, recommend that the Trustees approve a two-year contract award to CD Perry & Sons, Inc., in the amount of \$2.433 million, to repair the Crescent Small Hydroelectric Power Plant's tainter gate and concrete wall.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That pursuant to the Guidelines for Procurement Contracts adopted by the Authority, approval is hereby granted to award a two-year contract to CD Perry & Sons, Inc. of Troy, NY, in the amount of \$2.433 million to repair the tainter gate and concrete wall at Crescent Small Hydroelectric Power Plant.

CONTRACTOR

CONTRACT APPROVAL

**CD Perry & Sons, Inc.
Troy, NY
(Q15-5890HM)**

\$2.433 million

AND BE IT FURTHER RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

**iv. Crescent and Vischer Ferry Plants – Units 3 and 4
Overhaul and Accessories Replacement –
Contract Extension and Additional Funding Request**

The President and Chief Executive Officer submitted the following report:

SUMMARY

The Trustees are requested to approve an extension to the contract with Voith Hydro ('Voith') for the Crescent and Vischer Ferry Small Hydroelectric Power Plants' Unit 3 and Unit 4 Overhaul and Accessories Replacement Project for an additional term of approximately six months, ending no later than December 31, 2016, and additional funding of \$3,611,524.96 for more extensive repair to the units than anticipated.

BACKGROUND

The Authority's Expenditure Authorization Procedures ('EAPs') require the Trustees' approval when the cumulative Change Order value of a construction contract exceeds the greater of \$1 million or 25% of the originally contract amount not to exceed \$3 million. The EAPs also require the Trustees' approval when any and all cumulative Change Orders exceed \$3 million.

The subject contract, in the amount of \$7.2 million, to perform overhaul and accessories replacement for Unit 3 and Unit 4 at the Crescent and Vischer Ferry Power Plants, was competitively bid and approved by the Trustees at their December 18, 2012 meeting. The initial contract term was issued from January 1, 2013 to July 1, 2015. Thorough inspections performed after disassembly of the first two units revealed that conditions of most of the turbine components were worse than expected. This is a result of deferred major overhauls of the units since they were built and first commissioned in 1990. A one-year extension was subsequently authorized in accordance with the Authority's Guideline for Procurement Contracts and EAPs.

DISCUSSION

Two units were overhauled and returned to commercial operation in 2015. The remaining two units were disassembled and their components are currently at Voith's shop for repair. A total of six Change Orders were issued to perform more extensive repairs than anticipated. The total cumulative Change Order amount to date is \$2,821,830.96, which includes \$1,021,830.96 in excess of 25% of the original approved contract amount authorized by the Chief Operating Officer to meet construction schedule requirements. In addition, funding of \$2.6 million and a contract extension of six months are necessary to complete the needed repair for the remaining two units. Therefore, the Trustees' approval for total additional funding of \$3,611,524.96 is now requested. The revised contract amount will be \$12,611,524.96.

FISCAL INFORMATION

This revised contract amount will not exceed the total Capital Expenditure Authorization Request ('CEAR') approved on December 18, 2012.

Payments associated with this project will be made from the Authority's Capital budget.

RECOMMENDATION

The Senior Vice President and Chief Engineer – Operations Support Services, the Vice President – Project Management, and the Vice President – Procurement request that the Trustees approve a contract extension of six months for the Crescent and Vischer Ferry Small Hydroelectric Power Plants'

Unit 3 and Unit 4 Overhaul and Accessories Replacement Project and additional funding of \$3,611,524.96 to perform more extensive repairs of the remaining units.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That pursuant to the Guidelines for Procurement Contracts adopted by the Authority, approval is hereby granted to approve a six-month contract extension for the Crescent and Vischer Ferry Small Hydroelectric Power Plants’ Unit 3 and Unit 4 Overhaul and Accessories Replacement Project and additional funding request of \$3,611,524.96 for extra repair to the remaining units.

<u>Contractor</u>	<u>Additional Funding Approval</u>	<u>Revised Contract Amount</u>
Voith Hydro, Inc.	<u>\$3,611,524.96</u>	<u>\$12,611,542.96</u>

Contract No.
4600002651

AND BE IT FURTHER RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

d. Real Estate:

i. Lease Extension – Warehouse Space – Bartnick Garage

The President and Chief Executive Officer submitted the following report:

SUMMARY

The Trustees are requested to authorize the execution of a lease extension with the Bartnick Irrevocable Trust dated January 26, 2005, and the Bartnick Irrevocable Trust dated March 10, 2005, ('Landlords') for warehouse space located at 5642 Horatio Street, Utica, NY ('Bartnick Garage'). The proposed lease extension would be for a term of three years, commencing January 1, 2016 and terminating December 31, 2019, for leased space of approximately 6,000 square-feet. The annual rental is \$26,450 per annum for the first year and \$27,300 for the second and third years, inclusive of utilities, to be paid in equal monthly installments.

BACKGROUND

The Authority's Expenditure Authorization Procedures governing real estate require the Trustees' approval for the acquisition of lease interests in real property where the total term, including all renewal options, exceeds ten years.

Pursuant to The New York State Public Authorities Law and the Authority's Real Estate Procurement Guidelines, staff periodically reviews NYPA leases to insure that any leased space is still required and that the rent paid represents fair market value for the type of space and its location.

DISCUSSION

The Authority has leased warehouse space at the Bartnick Garage since March, 2001. The original lease has been extended seven times, with the current term expiring December 31, 2015.

The Bartnick Garage is used for the storage of an oil tanker used to vacuum oil from transformers, boats and buoys used at the Hinckley Reservoir, hot stick trailers, a compressor and other vehicles and equipment for which there is insufficient inside space at the Clark Energy Center ('CEC'). The warehouse is generally completely filled with equipment, and Transmission staff has confirmed that it requires the external warehouse space for at least the next three years. Among the criteria specified for location of the warehouse was proximity to CEC and the existence of a dedicated ramp and bay suitable to allow thru access for tractor trailers. Given these requirements, staff reviewed available options in the Utica area and reaffirmed that the Bartnick Warehouse was the most suitable site.

The rental rates and other charges set out above are competitive with similar space in the Utica area.

FISCAL INFORMATION

Funds required for the lease extension will come from the Authority's Capital Fund.

RECOMMENDATION

The Vice President – Enterprise Shared Services and the Vice President – Transmission recommend that the Trustees approve the execution of a lease extension with the Bartnick Irrevocable Trust for warehouse space located in Utica, New York.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, that the President and Chief Executive Officer, the Vice President – Enterprise Shared Services and the Vice President – Transmission be, and hereby are, authorized to enter into a three-year lease extension with the Bartnick Irrevocable Trust dated January 26, 2005, and the Bartnick Irrevocable Trust dated March 10, 2005, on substantially the terms set forth herein, subject to approval of lease documents by the Executive Vice President and General Counsel or his designee; and be it further

RESOLVED, That the Vice President – Enterprise Shared Services and the Vice President – Transmission are hereby authorized to execute any and all other agreements, papers or instruments on behalf of the Authority that may be deemed necessary or desirable to carry out the foregoing, subject to the approval by the Executive Vice President and General Counsel; and be it further

RESOLVED, that the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things and take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution subject to the approval of the form thereof by the Executive Vice President and General Counsel.

e. Information Technology:

**i. Information Technology Initiatives –
Capital Expenditure Authorization Request**

The President and Chief Executive Officer submitted the following report:

SUMMARY

The Trustees are requested to authorize capital expenditures in the amount of \$33,902,900 for the implementation of Information Technology's ('IT') Initiatives as per the Authority's Expenditure Authorization Procedures ('EAPs'). These expenditures have been included in the 2016 submitted Capital budget.

BACKGROUND

In accordance with the Authority's EAPs, the award of non-personal services or equipment purchase contracts in excess of \$3 million, as well as personal services contracts in excess of \$1 million if low bidder, or \$500,000 if sole-source or non-low bidder, requires the Trustees' approval.

Each year, in concert with the Business Units, IT has developed a list of initiatives designed to meet business needs, taking advantage of the evolving technology. These efforts have been funded from a capital program called IT Initiatives. This Capital Expenditure Authorization Request ('CEAR') represents the funding required to implement the IT initiatives throughout NYPA.

DISCUSSION

The Authority's Information Technology group has several teams which cover the functional areas of Application Development, Application Services, Cyber Security, Governance & Policy, Infrastructure, and IT Project Management. Each of these teams has put forth their work plans based on the Business Unit's and Strategic Initiatives Plans.

To ensure that the Authority's Initiatives continue to meet performance and business requirements, Information Technology has developed expenditure requirements for 2016. These expenditures will provide increased reliability by implementing and replacing aging systems, as well as increase business capability through new system implementations.

This initiative consists of development and implementation of new, replacement and major upgrades to systems and equipment to support the Authority's Information Technology systems.

Specific implementation efforts for 2016 include:

- Application Services
- Core Network Communications Upgrade
- Customer Services
- Cyber Implementations:
 - Cloud Access, Single Sign On, Active Directory Federation, SAML Access
 - SOC Replacement
 - Identity Services Engine / Network Access Control
 - Firewall Segmentation

- Remote Access
 - Privileged Account Management
 - Encryption (Network Level)
 - Threat Management
 - Network behavioral anomaly tool
 - Security Devices
- Digital Library
- Digital Record Process
- Enterprise Architecture
- External Departments
- Immersive Studio
- Infrastructure
- Major Meridian & AutoCad Release
- Major Portfolio Upgrades & Expansion:
 - DatasplICE replacement for IntelTrac
 - PTR Plus
 - PTR Plus to TOA
 - EtaPro
 - Portia
 - Voyager
 - GIS Database Yearly
 - GIS to Realm
 - CRM
 - Echosign E-Signature Expansion
 - Scrolling Monitor Expansion
 - SAP Portal
 - Content Server to SAP
- Maximo Projects:
 - CIP 5
 - Mobile Access
 - Fleet Module
 - Maximo & LMS
 - SF6
 - Operations Network Integration
- Middleware Implementations
- Mobile Implementations

- IT Project Management Office Initiatives:
 - Hydro Forecast
 - Sustainability Management Software Tool
 - PTRPlus
 - HandHeld Barcode
 - Legal Hold
- Portfolio Management
- Programming Services
- Renew CyberSecurity Strategy
- Storage Area Network (SAN)-FiberCore
- SAP Implementations
- 8th Floor Network Buildout
- Settlements System
- Facility Phone Turret
- Wide Area Network (WAN) Optimizer

The following lists the 2016 System Implementation costs:

• IT Initiative Procurement	\$ 30,288,476
• Internal NYPA Labor	\$ 2,000,000
• HQ Overhead	<u>\$ 1,614,424</u>
Total	<u>\$ 33,902,900</u>

FISCAL INFORMATION

Payments associated with this project will be made from the Capital Fund.

RECOMMENDATION

The Chief Information Officer – Information Technology recommends that the Trustees approve the Capital Expenditure Authorization Request in the amount of \$33,902,900 for the Information Technology Initiatives.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That in accordance with the Authority’s Expenditure Authorization Procedures, Capital Expenditures are hereby approved as recommended in the foregoing memorandum of the President and Chief Executive Officer, in the amount and for the purpose listed below:

<u>Capital</u>	<u>Expenditure Authorization</u>
Information Technology Initiatives	<u>\$ 33,902,900</u>

AND BE IT FURTHER RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things and take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

ii. **Operations Network II – Capital Expenditure Authorization Request**

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees are requested to authorize capital expenditures in the amount of \$10,714,200 for the implementation of a new Operations Network as per the Authority's Expenditure Authorization Procedures ('EAPs'). These expenditures have been included in the 2016 Capital budget.

BACKGROUND

In accordance with the Authority's EAPs, the award of non-personal services or equipment purchase contracts in excess of \$3 million, as well as personal services contracts in excess of \$1 million if low bidder, or \$500,000 if sole-source or non-low bidder, requires the Trustees' approval.

The Authority has a heterogeneous environment of various types of telecommunication equipment that make up the 'Operations network' infrastructure. This environment has grown and evolved over the past twenty years without an integrated design philosophy. A number of issues have been identified that need to be addressed:

- Cyber Security Risks – The installation of a new Operations Network will provide additional protection for the Authority in the event of a breach of its system.
- Management Difficulties – the age and variety of telecommunication circuits from numerous carriers present many problems in 'Outage Events.' For example, location of the problem; who should be called; staffing skills required to support the issue; how long the issue existed; and how long it will take to clear the 'Outage.'
- Lack of Circuit Redundancy – many of the current circuits are 'single path' without 'route diversity' and backup.
- End of Life Technology – many of the circuits the Authority depends on are being phased out by the carriers.

The original Operations Network project was utilized to implement the work associated with the BG network. Operations Network II will use that implementation model for implementation of the remaining facilities including CEC, HLT, NIA, POL, STL, as well as 21 utility locations.

DISCUSSION

The current infrastructure that has evolved over the past twenty years supports operations at the Authority's facilities. The types of uses include inter-facility communication of 'Real-Time Systems,' telemetry data acquisition for Supervisory Control and Data Acquisition ('SCADA') and Energy Management System ('EMS'), communication for Remote Terminal Units ('RTUs'), Access Control, Security, Video Surveillance, Radio communication, Protection Relay's communication and communication with the New York Independent System Operator ('NYISO') and other utilities.

The project requires the building of a new Operations Network, separate from the business Local Area Network ('LAN'), based on new technology – Multi-Protocol Label Switching ('MPLS') – provided by a single carrier. This new environment will have security and monitoring built in from the ground up in order to meet and exceed current North American Electric Reliability Corporation ('NERC') Critical Infrastructure Protection ('CIP') compliance and audit requirements.

The establishment of this new MPLS infrastructure will provide the following:

- Aggregate all circuits under one contract with a single carrier
- Segregation of the Operations Network from the Corporate Business Network

- Provide a new environment to monitor all Operations Circuits for Cyber Security
- Provide Centralized Management of the Status and Health of all circuits
- Reduce Costs of Operation

This project is a multi-year effort that will begin in 2016 and should be completed in 2018. It will involve engineering design, new hardware and software, installation and testing.

The major components of the funding are as follows:

• Engineering Design, Hardware, Software, Vendor Labor	\$ 5,632,000
• Internal Labor	\$ 4,572,000
• HQ Overhead	\$ 510,200
Total	<u>\$ 10,714,200</u>

FISCAL INFORMATION

Payments associated with this project will be made from the Capital Fund.

RECOMMENDATION

The Chief Information Officer – Information Technology recommends that the Trustees approve the Capital Expenditure Authorization Request in the amount of \$10,714,200 for the Operations Network II Project.

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

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That in accordance with the Authority’s Expenditure Authorization Procedures, Capital Expenditures are hereby approved as recommended in the foregoing report of the President and Chief Executive Officer, in the amount and for the purpose listed below:

<u>Capital</u>	<u>Expenditure Authorization</u>
Operations Network II	<u>\$ 10,714,200</u>

AND BE IT FURTHER RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things and take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

DISCUSSION AGENDA:

5. Staff Reports:

a. Report of the President and Chief Executive Officer

President Quiniones provided the following report on the Authority's performance for November (Exhibit "5a-A"), highlighting some of the Authority's accomplishments during 2015.

Performance Scorecard

Although some of the performance measures were below target for the month of November, they have been trending in the right direction.

Internal Audit

• Audit Plan

The Chief Audit Officer, Ms. Jennifer Faulkner, worked extremely well with management to create the Authority's 2016 Audit Plan and the Authority looks forward to that partnership and collaboration for the coming year.

Enterprise Risk Management

• Cyber Security Risk Analysis

The Authority has recruited and brought on board Mr. Soubhagya Parija as the new Chief Risk Officer. Mr. Parija has been tasked with looking at all the risks to the Authority's business, especially as it implements and prioritizes the initiatives in the NYPA 20/20 Strategic Plan. Mr. Parija discussed some of the issues on cyber security, a topic that is emerging in the utility industry.

Operations

• NRC Cyber Security Simulation Exercise

Staff from the Authority's Operations, and IT departments participated in a federally-administered simulated "Cyber War Games" for various utilities across the country. The feedback from NYISO regarding this exercise has been very good.

- **Lewiston Pump-Generator Plant – Unit #2 Upgrade Completion**

President Quiniones congratulated staff from the Operations group who worked on the Niagara Power Project's Lewiston Pump-Generating Units upgrade. The Unit #2 upgrade was completed in November. He said this project will realize productivity savings for the Authority.

Public Affairs & Business Development

- **SMART Path Project**

The Authority has commenced the licensing and project development of the SMART Path Project, which is the replacement of the Authority's Moses/Adirondack transmission line. This 85-mile transmission line with wooden poles more than 70 years old starts in Massena and goes down to the Adirondacks. This project is very important to the resiliency of NYPA's system and New York State's power grid. It will also enable the Authority to bring more power from Canada through its inter-connections with Hydro-Quebec into New York State and will bring in more renewable hydropower from Canada, a benefit to the Authority's customers and the state as a whole.

- **Nature Center Construction Progress**

The Authority is in the process of constructing a Nature Center in the North Country. This is part of the Authority's community benefit program, which is part of its FERC license of the St. Lawrence/FDR Power Project, for it to assist communities that were impacted when the Authority built the Project. The Nature Center was damaged by fire a few years ago and will now be co-located in an area where New York State Parks is developing other facilities. The Nature Center is an important resource for the community and will be a valuable resource to the Authority's partnership with communities in the North Country.

In response to a question from Chairman Koelmel, President Quiniones reiterated that the Authority will not meet its goal for the Generation Market Readiness and safety DART Rate performance measures. Nevertheless, as an organization, the Authority is well-positioned for 2016. The executive leadership team has been reorganized in order to align the way they support the implementation of NYPA's 20/20 Strategic Plan. The Authority will continue to give internal employees more leadership opportunities in addition to bringing in new talent to compliment the current staff. President Quiniones said he is very pleased to report that operationally and

financially the organization is doing well, and the culture of the organization is one of enthusiasm. The team worked extremely hard this year and is already planning to do more next year to advance NYPA's 20/20 Strategic Plan.

In response to a comment from Chairman Koelmel, President Quiniones said the last time the Authority built a new transmission line was approximately fifteen years ago when it built the Y-49 transmission cable. The Authority is currently planning to build two transmission lines, namely, the Marcy-South Series Compensation project using Smart Grid technology which will enable the Authority to bring power from the Utica area to the lower Hudson Valley and Southeast New York; and the Moses-Adirondack 85-mile transmission line that is part of the Authority's Life Extension and Modernization Program. The Authority plans to replace the underground line in Lake Champlain that connects to Vermont and also expects to compete for the building of another transmission line in Western New York with the anticipated retirement of the Dunkirk and Huntley coal plants.

President Quiniones ended by saying that the Authority is working on some very innovative projects both in Transmissions and Generation. It is also embarking on its Strategic Plan, focusing on its customers and deciding which products and services these customers value in the sphere of energy. The energy/utility business is fundamentally changing and technology innovations are the driving forces. Regulatory rules are also changing and climate-change policies are driving tremendous changes in the industry, not only at the state level, but globally. As these cutting-edge technologies evolve, the Authority will continue to be a leader and a very strong factor in advancing the state's energy policies and programs.

b. **Report of the Chief Risk Officer**

Mr. Soubhagya Parija provided highlights of the report to the Trustees. (Exhibit "5b-A").

He outlined the Authority's top risks and said a full-scale risk assessment will be conducted in the first quarter of 2016 after which a new dashboard of the Authority's risks will be provided to the Trustees. He said the Energy Risk Management ("ERM") group is putting some foundational steps in place to understand the Authority's risks, rewards, and the trade-off. ERM framework changes will also be implemented.

Mr. Parija said ERM is working on the five Current Projects listed below:

- *Commodity Risk Management*
- *Developing Portfolio View of Risks*
- *Risk Appetite*
- *Cyber Insurance for 2016*
- *Business Continuity and Emergency Management*

Mr. Parija ended by saying ERM will present the results of next year's risk assessment and the dashboard with the key risk indicators to the Board at the next meeting.

In response to a question from Chairman Koelmel, Mr. Parija said the dashboard will focus on the Authority's top risks and how they are being monitored.

c. **Report of the Chief Operating Officer**

Mr. Joseph Kessler, Senior Vice President of Power Generation, provided highlights of the Chief Operating Officer's report to the Trustees. (Exhibit "5c-A")

Performance Measures:

Generation Market Readiness

Generation Market Readiness was below target due to icing conditions in St. Lawrence; scheduled outage at the 500 MW Power Plant because of equipment damage; and deficiencies in the jet engine used for generating power discovered during an inspection at the Small Clean Power Plant at Pouch.

Because of these incidents, the Authority will not meet its year-end target for Generation Market Readiness.

Transmission Reliability

Transmission Reliability for November was below target due to timing issues. In the aggregate, this target will be achieved at the end of the year.

Environmental Incidents

Due to some SPDES permit exceedances, the Authority did not meet its YTD target for environmental incidents.

DART Rate

Due to some relatively minor incidents, this target will not be met by the end of the year.

Looking Ahead – 2016:

Technical Compliance:

- *NERC CIP – NYPA is working to achieve compliance with the North American Electric Reliability Corporation ("NERC") Critical Infrastructure Protection ("CIP") Version 5 standards before the April 1, 2016 enforcement date.*
- *Transmission LEM – NYPA is working on a number of significant projects, e.g. the Niagara Switchyard, substations, circuit breakers, towers and conductors.*

- *Asset Management – This is part of the Operations group’s Strategic Initiative. There are approximately five different business models in Operations and Asset Management deals with the best way to operate those businesses through a strategic asset management plan (“SAMP”) that is going to be completed by the end of this month.*
- *ISO 55000 is the international standard that was adopted last year and has been in place for many years in some of the commonwealth nations. The Authority is using that model to see how close and how quickly it can achieve this compliance. President Quiniones added that, to his knowledge, there are no utilities in the United States that is ISO 55000-certified. NYPA will be the first utility in the US to get this certification. The Authority believes this certification is the “best-in-class” and therefore in its interest to have this certification.*

In response to a question from Trustee McKibben, Mr. Kessler said there are thirty-nine key areas in the ISO Standard that the Authority reviews which is in alignment with its business. A Gap Analysis will help build that alignment and future investments in the Authority’s current assets.

Employee Engagement

Operations have been charged with re-engaging the staff on three key areas – Safety, Security, and Workforce Development.

Safety – Authority staff has renewed their efforts in this area. The safety committees met to discuss how safety issues should be managed, going forward.

Security – Authority staff plans to meet with the IBEW and other management staff to review the physical security and cyber security requirements in detail.

Workforce Development – The Authority is working to align staff through training opportunities to ensure staffing is strategically aligned with its business needs.

d. Report of the Chief Financial Officer

Mr. Gerard Vincitore, Senior Vice President of Corporate Finance, provided highlights of the Chief Financial Officer's report to the Trustees (Exhibit "5d-A"). He said there are four main areas in the CFO Report: 1) an overview of the year-to-date results; 2) discussion of the Authority's two key revenue-drivers; 3) an estimate for the year-end financial outlook; and 4) discussion on the financial metrics and the work staff is doing in that area.

Net Income

- *During the month of November, the Authority had net income of \$4 million which was \$1.8 million lower than the budgeted \$5.8 million. These results were due primarily to a lower net margin on sales (\$10.7 million) and a mark-to-market loss on the Authority's investment portfolio (\$5.5 million, higher than anticipated market interest rates), substantially offset by lower operating expenses (\$14.5 million). The lower net margin on sales was primarily attributable to significantly lower prices on market sales of hydro energy into the ISO market.*
- *Net income for the year-to-date was \$75.2 million, which was \$113.1 million lower than budgeted due to lower hydro production (\$56 million), and lower market energy prices (\$135 million), partially offset by lower O&M and other expenses (\$78 million). Lower production resulted from low precipitation and a less than normal winter ice thaw early in the year. Lower O&M and other expenses reflect underspending in programs including Five City Master Plan, Western NY Workforce Development and Customer Energy Solutions.*

Hydro Generation

Increased hydro volume expected towards the end of 2015 and for 2016. The December update includes a .12 Twh decrease in hydro production related to 2015 (compared to last month's projection).

Energy Price Forecast

Energy Zone A (Western NY) prices continue to be significantly below budget. Zone A price for November was 31% below the budget. Current projection is 26% below budget for the year.

Year-End Net Income Projection & Debt Service Coverage

Net income for the year is projected to be \$55-\$70 million with the budget variance primarily attributable to lower hydro production and lower market energy prices. Final results will vary based on the level of spending on O&M and other programs for the remainder of the year.

In response to questioning from Chairman Koelmel, Mr. Vincitore said during 2015 prices have consistently remained below the budget and will continue to do so. Staff is forecasting that prices will continue to be at much lower levels across all markets than they have seen historically. In addition, the Authority has revised its year-end projections upwards to \$60 million. In terms of liquidity, cash-flow measures, the Authority is very solid and expects to remain that way going into next year.

In response to further questioning from Chairman Koelmel, Mr. Vincitore said in addition to the voluntary contribution, the Authority provides other support such as the Recharge New York Program which has a discount associated with it and is included in the net operating income.

In response to still further questioning from Chairman Koelmel, Mr. Vincitore said NYPA has set a target to measure its financial performance. That target is the weighted average cost of capital which is 7%. NYPA uses this measure to make better informed decisions about its financial practices. This is a tool that will be used to benchmark return on investment capital.

Mr. Lurie added that there are two key points with regard to using this measure versus the accounting measures used in the past. First, it is largely based on the cash flow from the operating business, and second, the Authority also wants to have a return that compensates it for the opportunity cost of the money it has available to spend on capital for the benefit of the State. Regarding the reference to return on equity – there is some economic profit built into that number if you get to 7% – NYPA's debt cost may be 3% and the rest is returned to the opportunity cost of capital.

Authority staff is also being trained on how to use this measure namely, how to apply it into certain capital investments and projects that NYPA may consider. Going forward, the Authority is planning to use these types of measures, as well as the balance scorecard, to help drive the financial decision-making process.

Mr. Lurie added that since the Authority is a non-profit organization, it is not looking to maximize the Economic Value Added. The economic value for NYPA is going to fluctuate, not only because of the hydro and energy prices, but it also fluctuates with the amount of support NYPA gives to the State programs. Anything that is an operating expense that costs NYPA to incur staff or out-of-pocket expenses is included in that number.

In response to a question from Trustee Nicandri, Mr. Vincitore said from a percentage perspective, a five-year average would be approximately 7%.

Chairman Koelmel commented that he fully endorses the approach. The Authority anticipated dramatic changes early in the year and it played out as anticipated.

6. Finance

2016 Operating Budget and Filing of the 2016-2019 Approved Budget and 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 are requested to approve the 2016 Operating Budget, Operations and Maintenance ('O&M') Budget, Capital Budget and Energy Efficiency Budget for the Power Authority. The Operating Budget sets forth the expected revenues and expenses of the Authority and includes the recommended 2016 O&M Budget, the Capital Budget and the Energy Efficiency Budget (see attached Exhibits '6-A,' '6-B,' '6-C' and '6-D,' respectively) in the following amounts:

<u>2016 Budget</u>	<u>(\$ million)</u>
O&M	\$ 448.2
Capital	\$ 295.5
EnergyEfficiency	\$ 183.0

The Trustees are requested, in accordance with regulations of the Office of the State Comptroller ('OSC'), to approve the 2016-2019 Approved Budget and Financial Plan ('Four-Year Financial Plan' – see attached Exhibit '6-E') and authorize: (i) submitting the Four-Year Financial Plan to the Office of the State Comptroller ('OSC'), (ii) posting the Four-Year Financial Plan on the Authority's Website and (iii) making the Four-Year Financial Plan available for public inspection at not less than five convenient public places throughout New York State.

The Trustees are also requested to approve the use of up to \$125 million of Operating Fund monies for the purpose of the payment, purchase, defeasance and/or redemption of Revenue Bonds, Adjustable Rate Tender Notes and/or Extendible Municipal Commercial Paper Notes.

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 its 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 2016 Budgets are intended to provide the Authority's operating facilities and support organizations with the resources needed to meet this overall mission and the Authority's strategic objectives.

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 Budget and Four-Year Financial Plan have been prepared in accordance with these regulations.

In approving the 2016 O&M, Capital and Energy Efficiency Budgets, the Trustees will be authorizing spending for 2016 operations, spending for capital projects and general plant purchases of \$750,000 or less. The 2016 Budget includes requests for 67 new positions (25 positions pooled and

funded in a cost center under the Executive Office, 25 positions with no funding and 17 positions embedded in specific departments and funded accordingly).

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, capital projects of \$3 million or less, or an increase in spending of no more than \$1 million to a capital project previously approved by the Trustees. All other spending authorizations must be approved by the Trustees.

DISCUSSION

O&M Budget

The O&M Budget of \$448.2 million (Exhibit '6-B') reflects a continued concentration on the effective operation and maintenance of the Authority's critical investments in New York State's electric infrastructure in addition to the continued support of the strategic investments.

The 2016 O&M Budget for Operations provides \$231.1 million for baseline, or recurring, work (this excludes \$28 million for the Information Technology group which is now included in Operations). In addition to the baseline work, scheduled maintenance outages at the 500 MW plant and the Small Clean Power Plants (totaling \$11.6 million) and planned enhancements in non-recurring maintenance work at the operating facilities (totaling \$56.3 million) are designed to support high reliability goals. Some of the major non-recurring projects include: Blenheim-Gilboa Rotor Repair (\$8.4 Million); Massena Reactors Refurbishment (\$4.6 million); Massena Autotransformer Reactor Banks Refurbishment (\$4.7 million); Niagara Region Tower Painting (\$4.1 million); and Ice Sluice Gate Repairs (\$2.8 million).

The Astoria Energy II Budget totals \$27.8 million and represents the contractual O&M costs for the plant, which was placed in commercial operations 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, via a long-term contract.

Capital Budget

The 2016 Capital Budget (Exhibit '6-C') totals \$295.5 million, an increase of \$31.9 million from the 2015 Budget. Of this amount, \$167.4 million – or 57% of the total – represents planned investments in the Authority's Upstate New York facilities at Niagara and St. Lawrence, as well as in its statewide Transmission network. Significant capital projects for 2016 include the Lewiston Pump Generation Plant Life Extension and Modernization ('LEM') (\$38.6 million); the Marcy South Series Compensation (\$25.2 million); the PV-20 Submarine Cable Replacement (\$12.9 million); the St. Lawrence Breaker and Relay Replacement (\$10.2 million); the MA1 & MA2 – 230KV Cable Replacement (\$7.9 million); the Niagara Switchyard Life Extension and Modernization ('LEM') (\$7.4 million); the St. Lawrence Generator Step-Up Transformer Replacement (\$7.0 million); and the St. Lawrence Nature Center (\$5.6 million). Other significant capital projects include the Information Technology initiatives (\$33.9 million); the Implementation of Critical Infrastructure ('CIP') Version 5 standard requirements (\$9.3 million); the Customer Energy Solutions, (\$10.5 million); the AGILE lab (\$8.4); and the Smart G&T Communications Backbone (\$5.7 million).

The Capital Budget also includes \$26.3 million of minor additions, general plant and fleet purchases that will be authorized by approval of this budget.

Energy Efficiency Budget

The 2016 Budget for Energy Efficiency and Technologies (Exhibit '6-D') totals \$183.0 million, a decrease of \$39.3 million from the 2015 Budget. These expenditures will be subsequently recovered over time from the benefiting customers. The Budget includes funding for energy efficiency projects for

Authority customers and other eligible entities as the Authority strives to support Governor Cuomo's improved energy efficiency and clean, renewable energy goals.

Operating Budget

The 2016 Operating Budget (Exhibit '6-A') sets forth the expected revenues and expenses of the Authority on a Project/Market Area basis and serves as the basis for the Authority's financial reporting during the year. Expected revenues received from customers are based on contracts and tariffs that are approved by the Trustees. Market-based sales of any surplus energy from the Authority's generating facilities or 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. Projected expenses for O&M are detailed above. The Other Expenses category largely reflects various accruals (e.g., Other Post-Employment Benefit prior service obligations) and other miscellaneous expenses for which Trustee approval is sought on a case-by-case basis. Also reflected in the 2016 Operating Budget is an assumed level of contributions to New York State totaling \$90 million. Any such contribution may only be made if authorized by the Legislature and upon a determination (not requested at this time) by the Trustees that the payment would be feasible and advisable at the time of such disbursement.

Four-Year Financial Plan

Under Part 203 of the OSC Regulations, the Trustees are required to adopt a 2016 Budget and Four-Year Financial Plan (Exhibit '6-E'). The 2016 Budget, which is the first year of the Four-Year Financial Plan, is being brought to the Board for approval at this time. The remaining three years are indicative forecasts. The Four-Year 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 Four-Year Financial Plan must also be submitted to OSC, via electronic filing through the Public Authorities Reporting Information System maintained by OSC and the Authority Budget Office, within seven days of approval by the Trustees. The regulations also require the Authority to post the Four-Year Financial Plan on its Website.

Under Part 203, each approved Four-Year 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 approved Budget and Four-Year 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, the approved Four-Year Financial Plan must include a certification by the Chief Operating Officer.

The Trustees are also requested to expand the authorizations previously granted by the Trustees in February and October 1998, July 2000, September 2001, February 2003, January and November 2004, November 2006, May 2007 and July 2011 that allowed for the use of Operating Fund monies for the payment, purchase and/or defeasance of Revenue Bonds, Subordinate Revenue Bonds, Commercial Paper Notes and Extendible Municipal Commercial Paper Notes.

These prior authorizations have enabled the Authority to better align its cost structure for the rigors of the competitive market. While these efforts are largely concluded, there may be other opportunities to provide savings for Authority customers and/or for the Authority to sustain its strong financial metrics. Accordingly, the Trustees are requested to authorize the use of up to an additional

\$125 million of Operating Fund monies through 2016 for the payment, purchase, defeasance and/or redemption of debt.

FISCAL INFORMATION

Payment of O&M expenses will be made from the Operating Fund. Payment for Capital and Energy Efficiency expenditures will be made from the Capital Fund and the Energy Conservation Construction and Effectuation Fund, respectively. Monies of up to \$295.5 million from the Operating Fund will be transferred to the Capital Fund for capital expenditures and up to \$125 million in the Operating Fund will be made available for the payment, purchase, defeasance and/or redemption of debt as specified above, 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. The 2016 Operating Budget shows adequate earnings levels so that the Authority may maintain its financial goals for cash flow and reserve requirements.

The Four-Year Financial Plan net income estimates for each of the years 2017 through 2019 are indicative forecasts and the Trustees are not being asked to approve any revenue and expenditure amounts for those years at this time.

RECOMMENDATION

The Chief Financial Officer recommends that the Trustees approve the 2016 Operation and Maintenance, Capital and Energy Efficiency Budgets and the Operating Budget as discussed herein and authorize (i) submitting the Four-Year Financial Plan to the Office of the State Comptroller in the prescribed format, (ii) posting the Four-Year Financial Plan on the Authority's Website, (iii) making the Four-Year Financial Plan available for public inspection at not less than five convenient public locations throughout New York State and (iv) the use of up to \$125 million in Operating Fund monies for the payment, purchase, defeasance and/or redemption of Revenue Bonds, Adjustable Rate Tender Notes and/or Extendible Municipal Commercial Paper Notes.

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

Mr. Robert Lurie provided highlights of staff's recommendation to the Trustees. He said staff is requesting that the Trustees:

- 1. Approve the Authority's 2016 Operation and Maintenance (O&M), Capital and Energy Services Budgets;***
- 2. Approve Public posting of the Authority's four-year Financial Plan for the period 2016–2019; and***
- 3. Authorize Repayment of up to \$123 million of debt***

Trustee McKibben commented that she was very pleased to see the forecast for energy pricing. Looking at the initiatives the State has overall, and encouraging developmental and other energy resources, particularly renewable energy resources, and how that's going to impact NYPA's business, the optimistic view is that it will continue to reduce prices for the State. What

that means as NYPA projects its revenue and budget going forward, how it achieve what it is forecasting will be important, keeping in mind the larger goals of the State and bringing in additional energy resources that NYPA will ultimately be competing for.

President Quiniones said he wanted to commend Robert Lurie and Ed Welz and their teams for a job well done – the way capital projects are selected and capital for projects allocated to realize the Authority’s initiatives.

In response to a question from Trustee McKibben, Mr. Lurie said the target for the fixed charge coverage ratio is 1.75. That fixed charge coverage is the same as the Authority’s peer group. The Authority is currently just above that target and is paying off some of its debt.

In response to further questioning from Trustee McKibben, Mr. Lurie said the Authority has two different measures for debt service coverage. By paying down the debt, the Authority is improving its debt service coverage, and pursuant to the new measure, the Authority will stay above its targets by virtue of paying down this debt service.

In response to a question from Chairman Koelmel, Mr. Lurie said going forward, as the Authority enters into more projects that have a positive Net Present Value (“NPV”), the Authority will be earning more on the investments that it makes so that when it issues debt in the future, there would be more than enough revenue to pay for the debt and the initial cost of the debt.

In response to further questioning from Chairman Koelmel, Mr. Lurie said the out-of-pocket return on investment is equal to the interest that the Authority will no longer have to pay. Above that, to the extent that the Authority can maintain its AA rating, instead of dropping down, there’s an additional return that comes from that measure.

Mr. Lurie ended by saying that, viewing NYPA as a public purpose corporation, staff plans to use best practices from the corporate world to help run its business, going forward. To that end, staff is planning to create a new Corporate Scorecard to include availability of the Authority’s assets into the market and a measure on how much value it is providing to its customers. This will be discussed further at the January meeting.

Chairman Koelmel said before the Trustees vote on staff’s recommendation, for the record, Board members individually had an opportunity to review the budget in greater detail with

Mr. Lurie and his team, and asked if any member had questions or needed further clarification relative to what has been presented today.

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the 2016 Operating Budget, specifically including the 2016 Budgets for Operation and Maintenance, Capital and Energy Efficiency expenditures, as discussed in the foregoing report of the President and Chief Executive Officer, are hereby approved; and be it further

RESOLVED, That up to \$295.5 million of monies in the Operating Fund is hereby authorized to be withdrawn from such Fund and deposited in the Capital Fund; and be it further

RESOLVED, That pursuant to 2 NYCRR Part 203, the attached 2016-2019 Approved Budget and Financial Plan, including its certification by the Chief Financial Officer and Chief Operating Officer, is approved in accordance with the foregoing report of the President and Chief Executive Officer; and be it further

RESOLVED, That pursuant to 2 NYCRR Part 203, the Corporate Secretary be, and hereby is, authorized to submit the 2016-2019 Approved Budget and Financial Plan to the Office of the State Comptroller in the prescribed format, post the 2016-2019 Approved Budget and Financial Plan on the Authority's Website and make the 2016-2019 Approved Budget and Financial Plan available for public inspection at not less than five convenient public places throughout New York State; and be it further

RESOLVED, That the Trustees hereby authorize the use of up to \$125 million in Operating Fund monies for the payment, purchase, defeasance and/or redemption of Revenue Bonds, Adjustable Rate Tender Notes and/or Extendible Municipal Commercial Paper Notes; and be it further

RESOLVED, That as a prerequisite to any withdrawal pursuant to the foregoing resolution, the Treasurer or the Deputy Treasurer shall certify that such monies to be withdrawn are not then needed for any of the purposes specified in Section 503 (1)(a)-(c) of the General Resolution Authorizing Revenue Obligations, as amended and supplemented; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of

them hereby is, authorized on behalf of the Authority to do any and all things and take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

7. Power Allocations

a. Proposed Preservation Power Contract with Alcoa, Inc. and Contract amongst the Authority, Empire State Development and Alcoa – Notice of Public Hearing

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees are requested to approve the execution of the attached agreement (Exhibit ‘7a-A’) amongst the New York Power Authority (‘Authority’), Empire State Development (‘ESD’) and Alcoa, Inc. (‘Alcoa’ or ‘Company’) (‘Framework Agreement’), which commits the Authority to enter into a new contract for the sale of 245 megawatts (‘MW’) of firm Preservation Power (‘Contract’) to Alcoa, and the accompanying Electric Service Tariff for Alcoa Inc., Firm Hydroelectric Power Service, Service Tariff No. AL – 1 (‘Tariff’). The Contract and Tariff are attached as Exhibit ‘7a-B.’ The Trustees are also requested to authorize a public hearing, pursuant to Section 1009 of the Public Authorities Law, for the Contract and the accompanying Tariff.

BACKGROUND

On November 2, 2015, Alcoa publicly announced that it would curtail smelting operations at its Massena West plant, with the resulting loss of at least 487 jobs. Following Alcoa’s November 2, 2015 announcement, the Authority began negotiations with Alcoa and ESD to preserve 600 jobs in the North Country.

DISCUSSION

Framework Agreement

The Framework Agreement sets forth the terms pursuant to which Alcoa will continue smelting operations at its West Plant in exchange for operating and capital support totaling \$43.6 million provided by ESD and for electric power and energy supply provided by the Authority at rates lower than currently provided to Alcoa. The term of the Framework Agreement will be effective from October 1, 2015 through March 31, 2019. The Contract for the sale of 245 MW to Alcoa is incorporated into, and made a part of, the Framework Agreement. Both agreements provide for up to \$40 million in liquidated damages should Alcoa default on its agreement to maintain smelting operations at the West Plant and a Base Employment Level of 600 full-time employees during the term of the Framework Agreement and the Contract. The amount of the damages would gradually decline to \$4 million by the end of the term.

Proposed Preservation Power Contract

The allocation of Preservation Power is in consideration of Alcoa’s agreement to maintain smelting operations at the West Plant and retain 600 full-time employees at the facility. The other key elements of the Contract are as follows:

1. Power Allocation Quantity

The current Preservation Power allocation of 245 MW of firm hydropower provided to Alcoa under the 2014 Agreement will continue. The firm service will be equivalent to that provided to other Authority firm hydropower customers and subject to pro-rata curtailment when there is insufficient generation at the Niagara and St. Lawrence/FDR facilities to meet the energy requirements of the Authority’s firm hydropower customers. In the event of a pro-rata curtailment of all firm hydropower customers, the Authority will provide energy to Alcoa to replace the hydroelectricity that would otherwise have been supplied, and Alcoa shall pay the Authority directly, the market

cost of such energy and all other costs the Authority incurs in connection with the provision of such energy.

2. Pricing

In accordance with the Tariff, firm hydroelectric power and energy associated with the allocation will be sold to Alcoa at base rates tied directly to market aluminum prices on the London Metals Exchange and Midwest aluminum premium prices. The monthly base rates include both hydroelectric commodity and NYPA's transmission service charges ('TSC'). Furthermore, the commodity component of the base rates shall be no lower than the overall Rural/Domestic rates charged by the Authority to its qualifying customers. Should the overall Rural/Domestic Rate change, the base rates included in the Tariff will be adjusted for the difference.

Consistent with other tariffs, in addition to the base rate charges, Alcoa will pay all New York Independent System Operator ('NYISO') charges imposed on the Authority by the NYISO with respect to the load serving entity services provided to Alcoa. All taxes, assessments and other charges or costs imposed by third parties, as well as transmission charges will be passed through to Alcoa for payment, including incremental amounts above the TSC charge embedded in the base rates.

In addition to general tariff provisions, Service Tariff AL - 1 includes specific provisions to ensure the Authority's costs are recovered during the term of the Contract.

3. Term

Service under the Contract is effective October 1, 2015 and continues through March 31, 2019, unless service is ended prior to that date pursuant to default or other termination provisions as defined in the Framework Agreement and the Contract.

FISCAL INFORMATION

The revised rates under the proposed Service Tariff No AL - 1 produce approximately \$12.0 million per year less in Authority revenues than under the existing Tariff. Under higher base rates, resulting from higher Aluminum Prices, the annual revenue to the Authority decrease compared to current rates would be approximately \$8.3 million and \$4.6 million, respectively. In addition, there would be an estimated \$5 million credit for a retroactive bill adjustment to October 1, 2015, to the anticipated date of the new base rates effective March 1, 2016.

RECOMMENDATION

The Executive Vice President and Chief Financial Officer recommends that the Trustees approve the execution of the Framework Agreement; approve the allocation of 245 MW firm Preservation Power to Alcoa under the Contract; and authorize a public hearing on the proposed Contract under Public Authorities Law Section 1009.

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

Mr. Robert Lurie provided highlights of staff's recommendation to the Trustees.

Chairman Koelmel said, for the record, the Trustees have been kept abreast of the negotiations and had an opportunity to engage the team in order to understand the evolving nature of the dialogue and discussion with Alcoa.

Trustee Nicandri added that he wanted to point out to the Board members that the economy has not been good in Northern New York and this is a bridge to allow a substantial number of the employees to make some decisions about what they might want to do – this plant is the lifeline to a lot of people. If there is improvement in the price of aluminum on the London exchange then the possibility exists for things to change. There is the possibility of it costing the Authority some money, or not, and so it's a unique situation. It also gives the Authority some time, in the event that three years from now, if Alcoa determines it does not want to go forward, to plan a course of action.

Chairman Koelmel added that in view of the wide variety of requests the Authority receives within the ordinary course of business, he considers this to be an “out-sized” request within the context of a broader state-driven initiative, and not necessarily indicative of the types of requests the Authority would otherwise expect, or how it would engage those requests that are more within the ordinary course of business. He reiterated that the Authority's support is, in fact, supporting a broader base – a bigger picture objective – and not necessarily indicative of future performance in terms of how the Power Authority performs within these parameters. He said he wanted to clarify this, as well as ensure that Mr. Pasquale and his team, and those who come to the Authority for support, understands the boundaries within which the team would otherwise typically operate.

Trustee Flynn said he understands the unique situation and the concern about the people employed in that community and the people who rely on those employees to purchase their products. However, the Authority has to respect that other businesses in the State of New York will have the right to bring this to the table and remind the Authority of what was done today. The Board understands the situation, but has to respect that if other companies come to the forefront it must treat them with the same respect that it treated this entity before it today.

Chairman Koelmel reiterated that this action is within the context of a broader initiative and objective as opposed to those that are in the ordinary course of business.

The following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

RESOLVED, That the Framework Agreement and the allocation of 245 MW of Preservation Power to Alcoa, Inc., as described in the foregoing report of the President and Executive Officer and Exhibits "7a-A" and "7a-B" be, and hereby is, approved; and be it further

RESOLVED, That the Trustees hereby authorize a public hearing pursuant to Public Authorities Law ("PAL") §1009 on the terms of the proposed Agreement For the Sale of Firm Hydroelectric Power and Energy From the St. Lawrence-FDR Power Project to Alcoa, Inc. (the "Contract"), together with the annexed Service Tariff No. AL - 1; and be it further

RESOLVED, That in connection with the proposed Contract, the Corporate Secretary be, and hereby is, authorized to arrange for the publication of a notice of public hearing in six newspapers throughout the State, in accordance with the provisions of PAL §1009; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, including the Framework Agreement, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

b. Western New York Hydropower Allocation and Notice of Public Hearing

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees are requested to approve an allocation of 8,500 kilowatts ('kW') of Replacement Power ('RP') to 1366 Technologies Inc. ('1366 Technologies') which is planning to build a 130,000-square-foot silicon wafer production facility in the Western New York Science & Technology Advanced Manufacturing Park ('STAMP') in the Town of Alabama in Genesee County. The allocation would support capital investment of at least \$103.5 million and the creation of at least 150 jobs in Western New York ('WNY').

The Trustees are also requested to authorize a public hearing pursuant to Public Authorities Law ('PAL') §1009 on the proposed direct sale contract for 1366 Technologies, the current form of which is attached as Exhibit '7b-B.'

BACKGROUND

Under PAL §1005(13), the Authority may contract to allocate 250 megawatts ('MW') of firm hydroelectric power as Expansion Power ('EP') and up to 445 MW of RP to businesses in the State located within 30 miles of the Niagara Power Project, provided that the amount of power allocated to businesses in Chautauqua County on January 1, 1987 shall continue to be allocated in such county.

Each application for an allocation of EP and RP must be evaluated under criteria that include but need not be limited to, those set forth in PAL §1005(13)(a), which details general eligibility requirements. Among the factors to be considered when evaluating a request for an allocation of hydropower are the number of jobs created as a result of the allocation; the business' long-term commitment to the region as evidenced by the current and/or planned capital investment in the business' facilities in the region; the ratio of the number of jobs to be created to the amount of power requested; the types of jobs to be created, as measured by wage and benefit levels, security and stability of employment, and the type and cost of buildings, equipment and facilities to be constructed, enlarged or installed.

The Authority works closely with business associations, local distribution companies and economic development entities to garner support for the projects to be recommended for allocations of Authority hydropower. Discussions routinely occur with National Grid, Empire State Development ('ESD'), the Buffalo Niagara Enterprise and Niagara County Center for Economic Development ('NCCED') and Erie County Industrial Development Agency ('ECIDA') to coordinate other economic development incentives that may help bring economic development to New York State. Staff confers with these entities to help maximize the value of hydropower to improve the economy of WNY and the State of New York. Each organization has expressed support for today's recommended allocation.

DISCUSSION

Background

At this time, 10,637 kW of unallocated EP and 33,593 kW of unallocated RP is available to be awarded to businesses under the criteria set forth in PAL §1005(13)(a).

1366 Technologies Inc.

Started in late 2007, 1366 Technologies, based in Bedford, Massachusetts, has developed a cost-saving manufacturing process to produce silicon wafers for the solar industry. 1366 Technologies uses silicon to develop practical manufacturing solutions that increase efficiency and dramatically cut cost.

1366 Technologies has submitted an application for hydropower requesting 8,500 kW as part of an initial, 'Phase 1A' development project to construct a 130,000 square-foot solar wafer manufacturing plant at the Science, Technology & Advanced Manufacturing Park ('STAMP') in the Town of Alabama in Genesee County.

The facility would initially produce 60-65 million wafers annually that would help generate 250 MW of solar power. The use of hydropower would apparently make this facility the greenest in the U.S. solar industry. 1366 Technologies is hoping to break ground in June 2016.

1366 Technologies proposes multiple phases for the project. As part of Phase 1A, 1366 Technologies would create at least 150 jobs and invest at least \$103.5 million. The Authority's hydropower allocation would support the Phase 1A project in exchange for the specific commitments detailed in the proposed contract providing for the sale of the RP allocation.

A planned phase 1B expansion would increase the facility's manufacturing capacity from 250 MW to 1 gigawatt ('GW'), and provide for an additional 150 jobs and additional capital investment of approximately \$140 million. A planned phase 2 expansion would ultimately involve a larger facility with a capacity to manufacture nearly 3 GWs of wafers annually. That project is expected to cost approximately \$700 million and result in a total of 600 jobs at an expanded 1366 Technologies facility. The goal would be to complete the expanded project and commence full operations by June 2021.

The 1366 project will receive support from Empire State Development, the New York State Energy, Research & Development Authority, New York State Homes & Community Renewal and the Genesee County Economic Development Center.

The job creation ratio for the proposed allocation of 8,500 kW is 18 new jobs per MW. This ratio is below the historic average of 28.6 new jobs per MW based on allocations made during the past five years. The total project investment of at least \$103.5 million would result in a capital investment ratio of \$12.18 million per MW. This ratio is below the five-year historic average of \$24.3 million per MW.

Staff recommends that an allocation of 8,500 kW of RP be awarded to 1366 Technologies in support of Phase 1A of the project, an investment of at least \$103.5 million and the creation of at least 150 new jobs at 1366 Technologies' planned new facility, as further detailed in Exhibits '7b-A' and '7b-A-1.'

Contract Information

The Authority is in the process of discussing the proposed hydropower sales contract with 1366 Technologies and anticipates receiving approval of a contract substantially similar to the form attached as Exhibit '7b-B.' Accordingly, the Trustees are requested to authorize a public hearing, pursuant to PAL §1009, on the contract form for 1366 Technologies attached as Exhibit '7b-B.'

As required by PAL §1009, when the Authority believes it has reached agreement with its prospective co-party on a contract for the sale of EP or RP, it will transmit the proposed form of the contract to the Governor and other elected officials, and hold a public hearing on the contract. At least 30-days' notice of the hearing must be given by publication once in each week during such period in each of six selected newspapers. Following the public hearing, the form of the contract may be modified, if advisable. Staff will report to the Board of Trustees on the public hearing and the proposed contract at a later time and make additional recommendations regarding the proposed contract.

Upon approval of the final proposed contract by the Authority, the Authority must 'report' the proposed contract, along with its recommendations and the public hearing records, to the Governor and other elected officials. Upon approval by the Governor, the Authority may execute the contract.

The general form of the proposed contract is consistent with recently-approved contracts for the sale of EP and RP. Some pertinent provisions of the proposed form of the contract include the provision for direct billing of all production charges (i.e., demand and energy) as well as all New York Independent System Operator, Inc. ('NYISO') charges, plus taxes or any other required assessments, as set forth in the Authority's Service Tariff No. WNY-1. The proposed form of contract would also include (i) commercially reasonable provisions relating to financial security to reflect a direct billing arrangement between the Authority and its EP/RP customers, and (ii) provisions authorizing data transfers and addressing other utility-driven requirements which are necessary for efficient program implementation. Such provisions have been used in other Authority contract forms, including the Authority's Recharge New York ('RNY') Power Program contracts.

The provision of electric service for all hydropower allocations are subject to enforceable employment and usage commitments. The standard contract form includes annual job reporting requirements and a job compliance threshold of 90%. Should actual jobs reported by any company receiving a hydropower allocation fall below the compliance threshold, the Authority has the right to reduce the allocation on a pro-rata basis as provided for in the contract.

The recommended allocations would be sold pursuant to the Authority's Service Tariff No. WNY-1, which applies to all allocations of EP and RP. Transmission and delivery service would be provided by National Grid or New York State Electric & Gas in accordance with its Public Service Commission-filed service tariffs.

RECOMMENDATION

The Vice President – Marketing, recommends that the Trustees approve an allocation of 8,500 kilowatts ('kW') of Replacement Power to 1366 Technologies, Inc. as further described herein and in Exhibits '7b-A,' '7b-A-1' and '7b-B.'

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

The following resolution, as submitted by the President and Chief Executive Officer, was adopted with Trustee Kress being recused from the vote.

RESOLVED, That (i) an allocation of 8,500 kilowatts ("kW") of Replacement Power ("RP") to 1366 Technologies Inc., as detailed in the foregoing report of the President and Chief Executive Officer and Exhibits "7b-A" and "7b-A-1" be, and hereby is, approved; and be it further

RESOLVED, That the Trustees hereby authorize a public hearing pursuant to Public Authorities Law ("PAL") §1009 on the terms of the proposed form of the direct sale contract for the sale of RP finally negotiated with 1366 Technologies, Inc. (the "Contract"), the current form of which is attached as Exhibit "7b-B," subject to rates previously approved by the Trustees; and be it further

RESOLVED, That the Corporate Secretary be, and hereby is, authorized to transmit a copy of the proposed Contract to the Governor, the Speaker of the Assembly, the Minority Leader of the Assembly, the Chairman of the Assembly Ways and Means Committee,

the Temporary President of the Senate, the Minority Leader of the Senate and the Chairman of the Senate Finance Committee pursuant to PAL §1009; and be it further

RESOLVED, That in connection with the proposed Contract, the Corporate Secretary be, and hereby is, authorized to arrange for the publication of a notice of public hearing in six newspapers throughout the State, in accordance with the provisions of PAL §1009; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

c. Recharge New York Power Allocations

The President and Chief Executive Officer submitted the following report:

“SUMMARY

The Trustees are requested to:

1. award allocations of Recharge New York ('RNY') Power available for 'retention' purposes to the businesses listed in Exhibit '7c-A' in the amounts indicated therein;
2. award allocations of RNY Power available for 'expansion' purposes to the businesses listed in Exhibit '7c-B' in the amounts indicated therein; and
3. award an allocation of RNY Power available for eligible small businesses and not-for-profit corporations to the company listed in Exhibit '7c-C' in the amounts indicated on therein.

These actions have been recommended by the Economic Development Power Allocation Board ('EDPAB') at its December 14, 2015 meeting.

BACKGROUND

On April 14, 2011, Governor Andrew M. Cuomo signed into law the RNY Power Program as part of Chapter 60 (Part CC) of the Laws of 2011 ('Chapter 60'). The program makes available 910 megawatts ('MW') of 'RNY Power,' 50% of which will be provided by the Authority's hydropower resources and 50% of which will be procured by the Authority from other sources. RNY Power contracts can be for a term of up to seven years in exchange for job and capital investment commitments.

RNY Power is available to businesses and not-for-profit corporations for job retention and business expansion and attraction purposes. Specifically, Chapter 60 provides that at least 350 MW of RNY Power shall be dedicated to facilities in the service territories served by the New York State Electric and Gas, National Grid and Rochester Gas and Electric utility companies; at least 200 MW of RNY Power shall be dedicated to the purpose of attracting new businesses and encouraging expansion of existing businesses statewide; and up to 100 MW shall be dedicated for eligible not-for-profit corporations and eligible small businesses statewide.

Under the statute, 'eligible applicant' is defined to mean an eligible business, eligible small business, or eligible not-for-profit corporation; however, an eligible applicant shall not include retail businesses as defined by EDPAB, including, without limitation, sports venues, gaming or entertainment-related establishments or places of overnight accommodations. At its meeting on April 24, 2012, EDPAB defined a retail business as a business that is primarily used in making retail sales of goods or services to customers who personally visit such facilities to obtain goods or services, consistent with the rules previously promulgated by EDPAB for implementation of the Authority's Economic Development Power program.

Prior to entering into a contract with an eligible applicant for the sale of RNY Power, and prior to the provision of electric service relating to a RNY Power allocation, the Authority must offer each eligible applicant that has received an award of RNY Power the option to decline to purchase the RNY Market Power component of such award. If the applicant declines to purchase the RNY Market Power component from the Authority, the Authority has no responsibility for supplying RNY Market Power component of the award.

RNY, as the new economic development power program unrelated to the previous Power for Jobs ('PFJ') and Energy Cost Savings Benefit ('ECSB') programs, required customers participating in such programs on its sunset date on June 30, 2012, to apply for RNY in order to be considered for a RNY

Power allocation. All RNY applications are considered solely on their merits under the criteria established by the RNY legislation.

PFJ and ECSB customers who submitted applications prior to June 30, 2012 and who did not receive a RNY Power allocation were considered for the transitional electricity discount ('TED'). Pursuant to section 188-a of the economic development law, the Authority is authorized, as deemed feasible and advisable by the Trustees, to provide such TED as recommended by EDPAB. The amount of the TED for the period of July 1, 2012 through June 30, 2014 shall be equivalent to 66% of the unit (per kilowatt-hour) value of the savings received by the applicant under the PFJ or ECSB during the 12 months ending on December 31, 2010. The amount of the TED for the period July 1, 2014 through June 30, 2016 shall be equivalent to 33% of the unit (per kilowatt-hour) value of the savings received by the applicant under the PFJ or ECSB during the 12 months ending on December 31, 2010.

As part of Governor Andrew M. Cuomo's initiative to foster business activity and streamline economic development, applications for all statewide economic development programs, including the RNY Power Program, have been incorporated into a single on-line Consolidated Funding Application ('CFA'), marking a fundamental shift in how State economic development resources are marketed and allocated. Beginning in September 2011, the CFA was available to applicants. The CFA continues to serve as an efficient and effective tool to streamline and expedite the State's efforts to generate sustainable economic growth and employment opportunities. All applications that are considered for an RNY Power allocation are submitted through the CFA process.

Applications for RNY Power are subject to a competitive evaluation process and are evaluated based on the following criteria set forth in the statutes providing for the RNY Power Program (the 'RNY Statutes'):

- '(i) the significance of the cost of electricity to the applicant's overall cost of doing business, and the impact that a recharge New York power allocation will have on the applicant's operating costs;
- (ii) the extent to which a recharge New York power allocation will result in new capital investment in the state by the applicant;
- (iii) the extent to which a recharge New York power allocation is consistent with any regional economic development council strategies and priorities;
- (iv) the type and cost of buildings, equipment and facilities to be constructed, enlarged or installed if the applicant were to receive an allocation;
- (v) the applicant's payroll, salaries, benefits and number of jobs at the facility for which a recharge New York power allocation is requested;
- (vi) the number of jobs that will be created or retained within the state in relation to the requested recharge New York power allocation, and the extent to which the applicant will agree to commit to creating or retaining such jobs as a condition to receiving a recharge New York power allocation;
- (vii) whether the applicant, due to the cost of electricity, is at risk of closing or curtailing facilities or operations in the state, relocating facilities or operations out of the state, or losing a significant number of jobs in the state, in the absence of a recharge New York power allocation;
- (viii) the significance of the applicant's facility that would receive the recharge New York power allocation to the economy of the area in which such facility is located;
- (ix) the extent to which the applicant has invested in energy efficiency measures, will agree to participate in or perform energy audits of its facilities, will agree to participate in energy efficiency

programs of the authority, or will commit to implement or otherwise make tangible investments in energy efficiency measures as a condition to receiving a recharge New York power allocation;

(x) whether the applicant receives a hydroelectric power allocation or benefits supported by the sale of hydroelectric power under another program administered in whole or in part by the authority;

(xi) the extent to which a recharge New York power allocation will result in an advantage for an applicant in relation to the applicant's competitors within the state; and

(xii) in addition to the foregoing criteria, in the case of a not-for-profit corporation, whether the applicant provides critical services or substantial benefits to the local community in which the facility for which the allocation is requested is located.'

Based on the evaluation of these criteria, the applications were scored and ranked. Evaluations also considered scores provided by the relevant Regional Economic Development Council under the third and eighth criteria.

In arriving at recommendations for RNY Power for EDPAB's consideration, staff, among other things, attempted to maximize the economic benefits of low-cost NYPA hydropower, the critical state asset at the core of the RNY Power Program, while attempting to ensure that each recipient receives a meaningful RNY Power allocation.

Business applicants with relatively high scores were recommended for allocations of retention RNY Power of 50% of the requested amount or average historic demand, whichever was lower. These allocations were capped at 10 MW for any recommended allocation. Not-for-profit corporation applicants that scored relatively high were recommended for allocations of 33% of the requested amount or average historic demand, whichever was lower. These allocations were capped at 5 MW. Applicants currently receiving hydropower allocations under other Authority power programs were recommended for allocations of RNY Power of 25% of the requested amount, subject to the caps as stated above.

RNY Power allocations have been awarded by the Trustees on twelve prior occasions spanning from April 2012 through July 2015. Of the 200 MW block of RNY Power made available pursuant to Chapter 60 for business 'expansion' purposes, 109.1 MW remain unallocated. Of the 100 MW of RNY Power that was set aside for not-for-profit corporations and small businesses pursuant to Chapter 60, 0.6 MW remain unallocated. Of the remaining RNY Power made available pursuant to Chapter 60, 23.6 MW remain unallocated.

These figures reflect Trustee actions on RNY Power applications taken prior to any actions the Trustees take today.

DISCUSSION

1. Retention-Based RNY Power Allocations – Action Item

The Trustees are asked to address applications submitted via the CFA process for RNY Power retention-based allocations. Consistent with the evaluation process as described above, EDPAB recommended at its December 14, 2015 meeting that RNY Power retention allocations be awarded to the businesses listed in Exhibit '7c-A.' Each business has committed to retain jobs in New York State and to make capital investments at their facilities in exchange for the recommended RNY Power allocations.

The RNY Power 'retention' allocations identified in Exhibit '7c-A' are each recommended for a term of seven years unless otherwise indicated. An allocation recommended by EDPAB qualifies the subject applicant to enter into a contract with the Authority for the purchase of the RNY Power. The Authority's standard RNY Power contract template, approved by the Trustees at their March 27, 2012

meeting, contains provisions addressing such things as effective periodic audits of the recipient of an allocation for the purpose of determining contract and program compliance, and for the partial or complete withdrawal of an allocation if the recipient fails to maintain mutually agreed-upon commitments, relating to, among other things, employment levels, power utilization, and capital investments. In addition, there is a requirement that a recipient of an allocation perform an energy efficiency audit at its facility not less than once during the first five years of the term of the allocation.

As noted in Exhibit '7c-A,' some of these applicants are also being recommended for an expansion-based allocation, having satisfied the criteria for both components of the RNY Power Program.

2. Expansion-Based RNY Power Allocations – Action Item

The Trustees are also asked to address applications submitted for RNY Power expansion-based allocations via the CFA process which request allocations from the 200 MW block of RNY Power dedicated by statute for 'for-profit' businesses that propose to expand existing businesses or create new business in the State. These applications sought a RNY Power allocation for either (i) expansion only, in the case of a new business or facility, or (ii) expansion *and* retention, in the case of an existing business. EDPAB recommended at its December 14, 2015 meeting that RNY Power expansion-based allocations be made to the businesses listed in Exhibit '7c-B.' Each such allocation would be for a term of seven years unless otherwise indicated.

As with the evaluation process used for the retention recommendations described above, applications for the expansion-based RNY Power were scored based on the statutory criteria, albeit with a focus on information regarding each applicants' specific project to expand or create their new facility or business (e.g., the expansion project's cost, associated job creation, and new electric load due to the expansion).

The respective amounts of the expansion-related allocations listed in Exhibit '7c-B' are largely intended to provide approximately 70% of the individual expansion projects' estimated new electric load. Because these projects have estimated new electric load amounts, and to ensure that an applicant's overestimation of the amount needed would not cause that applicant to receive a higher proportion of RNY Power to new load, the allocations in Exhibit '7c-B' are recommended based on an 'up to' amount basis. Each of these applicants would be required to, among other commitments, add the new electric load as stated in its application, and would be allowed to use up to the amount of their RNY Power allocation in the same proportion of the RNY Power allocation to requested load as stated in Exhibit '7c-B.' The contracts for these allocations would also contain the standard provisions previously summarized in the last paragraph of Section 1 above.

3. Small Business and Not-for-Profit-Based RNY Power Allocations – Action Item

In addition, the Trustees are asked to address an application submitted via the CFA process for RNY Power for eligible small businesses and not-for-profit corporations. Consistent with the evaluation process as described above, EDPAB recommended at its December 14, 2015 meeting that a RNY Power allocation be awarded to the not-for-profit applicant listed in Exhibit '7c-C.' The applicant has committed to retain jobs in New York State and make capital investments in exchange for the recommended RNY Power allocation as described in Exhibit '7c-C.' The RNY Power allocation identified in Exhibit '7c-C' is recommended for a term of seven years. The contract would contain the types of standard contract provisions summarized in Section 1 above.

Staff notes that Chapter 60 specifies that no more than 100 MW of RNY Power may be made available for eligible small businesses and eligible not-for-profit corporations (the '100 MW SB-NFP Block of Power'). If EDPAB's recommendation to make the award to the business identified in Exhibit '7c-C' is accepted, the 100 MW SB-NFP Block of Power will be close to fully allocated.

Accordingly, a waiting list has been established for small businesses and not-for profit corporations that are potentially eligible to apply for the 100 MW SB-NFP Block Power.

4. EDPAB Ineligibility Determinations – Informational Item

At its meeting on December 14, 2015, EDPAB determined that the applicants listed on Exhibit '7c-D' are not eligible for RNY Power for the reasons explained therein. No action by the Trustees is required on these applications.

5. EDPAB – Applications Not Recommended – Informational Item

At its meeting on December 14, 2015, EDPAB determined to not recommend the applicants listed on Exhibit '7c-E' for a RNY Power allocation for the reasons specified therein. No action by the Trustees is required on these applications.

6. EDPAB – Applications Rejected – Informational Item

EDPAB rejected the applications listed on Exhibit '7c-F' for the reasons listed therein. No action by the Trustees is required on this matter. In the past, businesses have refiled complete applications or supplemented incomplete applications to advance the RNY Power application process.

RECOMMENDATION

The Manager – Business Power Allocations and Compliance recommends that the Trustees: (1) award the allocations of RNY Power for retention purposes to the businesses listed in Exhibit '7c-A' as indicated therein; (2) award the allocations of RNY Power for expansion purposes to the businesses listed in Exhibit '7c-B' as indicated therein; and (3) award the allocation of RNY Power to the applicant identified in Exhibit '7c-C' for retention purposes as indicated therein.

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

Mr. Keith Hayes provided highlights of staff's recommendation to the Trustees. In response to a question from Trustee McKibben, Mr. Hayes said there is approximately .6 MW of power left in the small business and not-for-profit program and this allocation would not exhaust it since staff anticipates getting some power back for future allocations.

The following resolution, as submitted by the President and Chief Executive Officer, was adopted with Trustee Flynn being recused from the vote as it relates to Saint Gobain Performance Plastics.

WHEREAS, the Economic Development Power Allocation Board (“EDPAB”) has recommended that the Authority award Recharge New York (“RNY”) Power allocations for retention purposes to the applicants listed in Exhibit “7c-A” in the amounts indicated; and

WHEREAS, EDPAB has recommended that the Authority award RNY Power allocations for expansion purposes to the applicants listed in Exhibit “7c-B” in the amounts indicated; and

WHEREAS, EDPAB has recommended that the Authority award RNY Power allocations to the applicant listed in Exhibit "7c-C" in the amount indicated;

NOW THEREFORE BE IT RESOLVED, That, upon considering the foregoing and the foregoing report of the President and Chief Executive Officer and the accompanying exhibits, the Authority hereby award allocations of RNY Power for retention purposes to the applicants listed on Exhibit "7c-A" in the amounts indicated; and be it further

RESOLVED, That upon considering the foregoing and the foregoing report of the President and Chief Executive Officer and the accompanying exhibits, the Authority hereby award the allocations of RNY Power for expansion purposes to the applicants listed on Exhibit "7c-B" in the amounts indicated; and be it further

RESOLVED, That upon considering the foregoing and the foregoing report of the President and Chief Executive Officer and the accompanying exhibits, the Authority hereby award the allocation of RNY Power for the applicant listed on Exhibit "7c-C" in the amount indicated; and be it further

RESOLVED, That the Chairman, the President and Chief Executive Officer, the Chief Operating Officer and all other officers of the Authority are, and each of them hereby is, authorized on behalf of the Authority to do any and all things, take any and all actions and execute and deliver any and all agreements, certificates and other documents to effectuate the foregoing resolution, subject to the approval of the form thereof by the Executive Vice President and General Counsel.

d. Compliance Review – Globe Metallurgical, Inc.

Mr. James Pasquale said that at the July meeting staff indicated they would like to defer the recommendation for Globe Metallurgical, Inc. ("Globe"). He said staff engaged an independent accounting firm to verify the company's job numbers; however, at this time, staff would like to conduct further analysis and is requesting that the Board extend the time for staff's recommendation to January 2016.

In response to a question from Chairman Koelmel, Mr. Pasquale said staff wants to make sure that the recommendation on how they are going to apply the reduction to Globe's allocation is consistent with what has been recommended for customers in July. The Board will then be able to take definitive action on staff's recommendation for Globe's allocation.

8. **Motion to Conduct an Executive Session**

Mr. Chairman, I move that the Authority conduct an executive session pursuant to the Public Officers Law of the State of New York section §105 to discuss an ongoing investigation, contract negotiations, labor negotiations, and matters leading to the promotion or demotion of a particular person. Upon motion made and seconded an Executive Session was held.

9. **Motion to Resume Meeting in Open Session**

Mr. Chairman, I move to resume the meeting in Open Session. Upon motion made and seconded, the meeting resumed in Open Session.

10. **Next Meeting**

The next meeting of the Trustees will be held on **January 26, 2016 at the Clarence D. Rappleyea Building, White Plains, New York**, unless otherwise designated by the Chairman with the concurrence of the Trustees.

Closing

Upon motion made and seconded, the meeting was adjourned by the Chairman at approximately 1:10 p.m.

Karen Delince
Corporate Secretary

December 17, 2015

EXHIBITS

For

December 17, 2015

Regular Meeting

Minutes

Line	Company Name	Program	City	County	Trustee Public Hearing Authorization Date	Allocation (kW)	New Jobs	Total Job Commitment	Capital Investment	Proposed Direct Sale Contract Term
1	St. Lawrence Zinc Company, LLC	PP	Gouverneur	St. Lawrence	12/16/2014	4,000	100	108	\$33,800,000	7 Years
2	New York Air Brake LLC	PP	Watertown	Jefferson	9/29/2015	300	10	570	\$6,600,000	7 Years

POWER AUTHORITY

OF THE

STATE OF NEW YORK

30 South Pearl Street
10th Floor
Albany, New York 12207-3425

**AGREEMENT FOR THE SALE OF
PRESERVATION POWER AND ENERGY**
to

NEW YORK AIR BRAKE LLC

The Power Authority of the State of New York (“Authority”), created pursuant to Chapter 772 of the New York Laws of 1931 and existing under Title 1 of Article 5 of the New York Public Authorities Law (“PAL”), having its office and principal place of business at 30 South Pearl Street, 10th Floor, Albany, New York 12207-3425, hereby enters into this Agreement for the Sale of Preservation Power and Energy (“Agreement”) to New York Air Brake LLC, with offices at 748 Starbuck Avenue, Watertown, New York, 13601 (“Customer”). The Authority and the Customer are from time to time referred to in this Agreement individually as a “Party” or collectively as the “Parties” and agree as follows:

RECITALS

WHEREAS, the Authority is authorized to sell hydroelectric power produced by the St. Lawrence-FDR Power Project known as Preservation Power (or “PP”), as further defined in this Agreement, to qualified businesses in New York State in accordance with PAL § 1005(5) and (13);

WHEREAS, PP consists of 490 megawatts (“MW”) of firm hydroelectric power and associated energy produced by the St. Lawrence-FDR Power Project;

WHEREAS, St. Lawrence-FDR Power Project hydroelectric power plays an important role in providing competitively priced power for sale to attract and retain business investment and to promote economic development in New York State;

WHEREAS, the Authority has the authority under PAL § 1005(13)(a) to award allocations of PP based on, among other things, the criteria listed in the PAL, including but not limited to an applicant’s long-term commitment to the region as evidenced by the current and planned capital investment; the type and number of jobs supported or created by the allocation; and the state, regional and local economic development strategies and priorities supported by local units of governments in the area in which the recipient’s facilities are located;

WHEREAS, the Customer has applied for an allocation of PP for use at facilities located at 748 Starbuck Avenue, Watertown, New York, 13601 (defined in Article I of this Agreement as the “Facility”) to be received upon completion of an expansion of the Facility as provided for in the Capital Expansion Program described in this Agreement;

WHEREAS, on September 29, 2015, the Authority’s Board of Trustees (“Trustees”) approved a 300 kilowatt allocation of PP (defined in Article I of this Agreement as the “Allocation”) to the Customer for a seven year term, as further described in this Agreement;

WHEREAS, the provision of Electric Service (defined in Article I of this Agreement) associated with the Allocation is an unbundled service separate from the transmission and delivery service necessary for the Customer to receive the Allocation which will be performed by the Customer’s local utility company;

WHEREAS, the Authority has complied with requirements of PAL § 1009 which specifies the approval process for contracts negotiated by the Authority; and

WHEREAS, the Governor of the State of New York has approved the terms of this Agreement pursuant to PAL § 1009(3).

NOW THEREFORE, in consideration of the mutual covenants herein, the Authority and the Customer agree as follows:

Article I. Definitions

- A. **Agreement** means this Agreement as further described in the preamble, including all documents and other matters attached to and incorporated into the Agreement.
- B. **Allocation** refers to the total amount of PP and associated energy set forth in Schedule A to this Agreement awarded to the Customer.
- C. **Contract Demand** has the meaning set forth in the Service Tariff.
- D. **Electric Service** is Firm Power and Firm Energy associated with the Allocation and sold to the Customer in accordance with the provisions of this Agreement, the Service Tariff, and the Rules.
- E. **Energy Efficiency Audit** means a physical inspection of a building in a manner approved by the Authority that should include the following elements: (1) an assessment of a building's energy use, cost and efficiency which produces an energy utilization index for the building (such as an Energy Use Intensity or Energy Performance Indicator); (2) a comparison of the building's index to indices for similar buildings; (3) an analysis of low-cost/no-cost measures for improving energy efficiency; (4) a listing of potential capital improvements for improving energy consumption; and (5) an initial assessment of potential costs and savings from such measures and improvements.
- F. **Facility** means the Customer's facility identified in Schedule A.
- G. **Firm Energy** has the meaning set forth in the Service Tariff.
- H. **Firm Power** has the meaning set forth in the Service Tariff.
- I. **FERC** means the Federal Energy Regulatory Commission (or any successor organization).
- J. **FERC License** means the license issued by FERC to the Authority for the continued operation and maintenance of the St. Lawrence Project, pursuant to Section 15 of the Federal Power Act, which became effective October 22, 2003 after expiration of the Project's original license issued in 1953.
- K. **Hydro Projects** is a collective reference to the Authority's Niagara Project and St. Lawrence-FDR Project.

- L. **International Joint Commission** (or **IJC**) refers to the entity with responsibility to prevent and resolve disputes between the United States of America and Canada under the *1909 Boundary Waters Treaty* and pursues the common good of both countries as an independent and objective advisor to the two governments. The IJC rules upon applications for approval of projects affecting boundary or transboundary waters and may regulate the operation of these projects.
- M. **Load Serving Entity** (or **LSE**) means an entity designated by a retail electricity customer to provide capacity, energy and ancillary services to serve such customer, in compliance with NYISO Tariffs, rules, manuals and procedures.
- N. **NYISO** means the New York Independent System Operator, Inc. or any successor organization.
- O. **NYISO Charges** has the meaning set forth in the Service Tariff.
- P. **NYISO Tariffs** means the NYISO's Open Access Transmission Tariff or the NYISO's Market Administration and Control Area Services Tariff, as applicable, as such tariffs are modified from time to time, or any successor to such tariffs.
- Q. **PAL** means the New York Public Authorities Law.
- R. **Preservation Power** (or **PP**) has the meaning set forth in the Service Tariff.
- S. **Niagara Project** means the Authority's Niagara Power Project, FERC Project No. 2216.
- T. **Rules** refers to the Authority's Rules and Regulations for Power Service (Part 454 of Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York), as may be modified from time to time by Authority.
- U. **Service Tariff** means the Authority's Service Tariff No. 10, as may be modified from time to time by the Authority, which contains, among other things, the rate schedule establishing rates and other commercial terms for sale of Electric Service to Customer under this Agreement.
- V. **St. Lawrence Project** means the Authority's St. Lawrence-FDR Power Project, FERC Project No. 2000.
- W. **Schedule A** refers to the Schedule A to this Agreement entitled "Preservation Power Allocations" which is attached to and made part of this Agreement.
- X. **Schedule B** refers to the Schedule B to this Agreement entitled "Preservation Power Commitments" which is attached to and made part of this Agreement.
- Y. **Schedule C** refers to Schedule C to this Agreement entitled "Takedown Schedule" which is attached to and made part of this Agreement.

- Z. **Substitute Energy** means energy that the Authority provides at the request of the Customer to replace hydroelectric power that would otherwise have been supplied to the Customer under this Agreement.
- AA. **Taxes** have the meaning set forth in the Service Tariff.
- BB. **Unforced Capacity** (or **UCAP**) is the electric capacity required to be provided by Load Serving Entities to serve electric load as defined by the NYISO Tariffs, rules, manuals and procedures.

Article II. Electric Service

- A. The Authority shall provide Electric Service to the Customer to enable the Customer to receive the Allocation in accordance with this Agreement, the Service Tariff and the Rules. The Customer shall not be entitled to receive Electric Service for any PP Allocation that is not specified in Schedule A.
- B. The Authority will provide, and the Customer shall pay for, Electric Service with respect to the Allocation specified on Schedule A. If Schedule C specifies a Takedown Schedule for the Allocation, the Authority will provide, and the Customer shall take and pay for, Electric Service with respect to the Allocation in accordance with such Takedown Schedule.
- C. The Authority shall provide UCAP in amounts necessary to meet the Customer's NYISO UCAP requirements associated with the Allocation in accordance with the NYISO Tariffs. The Customer shall be responsible to pay the Authority for such UCAP in accordance with the Service Tariff.
- D. The Customer acknowledges and agrees that Customer's local electric utility shall be responsible for delivering the Allocation to the Facility specified in Schedule A, and that the Authority has no responsibility for delivering the Allocation to the Customer.
- E. The Contract Demand and the Allocation may be modified by the Authority if the amount of Firm Power and Firm Energy available for sale as PP from the St. Lawrence Project is modified as required to comply with any ruling, order, or decision of any regulatory or judicial body having jurisdiction, including but not limited to FERC. Any such modification will be made on a pro rata basis to all PP customers, as applicable, based on the terms of such ruling, order, or decision. The Authority will use reasonable efforts to provide at least thirty (30) days prior written notice to the Customer of any such modification unless such notice is inconsistent with such ruling, order or decision.
- F. The Contract Demand may not exceed the Allocation.
- G. By entering into this Agreement, the Customer consents to the exchange of information between the Authority and the Customer's local electric utility pertaining to the Customer that such parties determine is necessary to provide for the allocation, sale and delivery of PP to the

Customer, the proper and efficient implementation of the PP power program, billing related to PP Power, and/or the performance of such parties' obligations under any contracts or other arrangements between them relating to such matters. In addition, the Customer agrees to complete such forms and consents the Authority determines are necessary to effectuate such exchanges of information.

- H. The provision of Electric Service by the Authority shall be dependent upon the existence of a written agreement between the Authority and the Customer's local electric utility providing for the delivery of PP on terms and conditions that are acceptable to the Authority.
- I. The Customer understands and acknowledges that the Authority may from time to time require the Customer to complete forms, provide documentation, execute consents and provide other information (collectively, "Information") the Authority determines is necessary for the provision of Electric Service, the delivery of PP, billing related to the PP program, the effective and proper administration of the PP program, and/or the performance of contracts or other arrangements between the Authority and the Customer's local electric utility. The Customer's failure to provide such Information shall be grounds for the Authority in its sole discretion to withhold or suspend Electric Service to the Customer.

Article III. Rates, Terms and Conditions

- A. The Authority will provide Electric Service to the Customer based on the rates, terms and conditions established in accordance with this Agreement, the Service Tariff and the Rules.
- B. The Service Tariff and the Rules may be amended from time to time by the Authority. The Authority shall provide at least thirty (30) days prior written notice to the Customer of any proposed change in the Service Tariff or the Rules. No subsequent amendment to the Service Tariff or the Rules shall affect the determination of rates for PP to the Customer during the term of the Agreement except insofar as otherwise authorized by this Agreement. This provision shall not limit the Authority's discretion to determine rates applicable to allocations of power and energy awarded to the Customer beyond or in addition to the Allocation.
- C. Notwithstanding any provision of this Agreement to the contrary, the power and energy rates shall be subject to increase by the Authority at any time upon 30 days prior written notice to Customer if, after consideration by the Authority of its legal obligations, the marketability of the output or use of the St. Lawrence Project and the Authority's competitive position with respect to other suppliers, the Authority determines in its discretion that increases in rates obtainable from any other Authority customers will not provide revenues, together with other available Authority funds not needed for operation and maintenance expenses, capital expenses, and reserves, sufficient to meet all requirements specified in the Authority's bond and note resolutions and covenants with the holders of its financial obligations. The Authority shall use its best efforts to inform the Customer at the earliest practicable date of its intent to increase the power and energy rates pursuant to this provision. Any rate increase to the Customer under this subsection shall be on a non-discriminatory basis as compared to other Authority customers that are subject to the Service Tariff after giving consideration to the

factors set forth in the first sentence of this subsection. With respect to any such increase, the Authority shall forward to the Customer with the notice of the increase, an explanation of all reasons for the increase, and shall also identify the sources from which the Authority will obtain the total of increased revenues and the bases upon which the Authority will allocate the increased revenue requirements among its customers. Any such increase in rates shall remain in effect only so long as the Authority determines such increase is necessary to provide revenues for the purposes stated in the preceding sentences.

Article IV. Billing and Billing Methodology

- A. The billing methodology for the Allocation shall be determined on a “load factor sharing” basis in a manner consistent with the local electric utility’s applicable tariffs and any agreement between the Authority and the Customer’s local electric utility. An alternative basis for billing may be used provided the Parties agree in writing and the local electric utility provides its consent if such consent is deemed necessary.
- B. The Authority shall render bills for power and energy by the tenth (10th) business day of the month for charges due for the previous month. Such bills shall include the NYISO Charges and Taxes (as such terms are defined in the Service Tariff) associated with the Allocation. NYISO Charges and Taxes billed to the Customer are subject to adjustments consistent with any subsequent NYISO re-billings to Authority.
- C. The Authority may render bills to the Customer electronically.
- D. The Authority and the Customer may agree in writing to an alternative method for the rendering of bills and for the payment of bills, including but not limited to the use of an Authority-established customer self-service web portal.
- E. The Authority will charge and collect from the Customer all Taxes (including local, state and federal taxes) the Authority determines are applicable, unless the Customer furnishes the Authority with proof satisfactory to the Authority that (i) the Customer is exempt from the payment of any such Taxes, and/or (ii) the Authority is not obligated to collect such Taxes from the Customer. If the Authority is not collecting Taxes from the Customer based on the circumstances described in (i) or (ii) above, the Customer shall immediately inform the Authority of any change in circumstances relating to its tax status that would require the Authority to charge and collect such Taxes from the Customer.
- F. Unless otherwise agreed to by the Authority and the Customer in writing, if the Customer fails to pay any bill when due, an interest charge of two percent (2%) of the amount unpaid shall be added thereto as liquidated damages, and thereafter, as further liquidated damages, an additional interest charge of one and one-half percent (1 1/2%) of the sum unpaid shall be added on the first day of each succeeding billing period until the amount due, including interest, is paid in full.
- G. Unless otherwise agreed to by the Authority and the Customer in writing, in the event the Customer disputes any item of any bill rendered by Authority, the Customer shall pay such

bill in full within the time provided for by this Agreement, and adjustments, if appropriate, will be made thereafter.

- H. If at any time after commencement of Electric Service the Customer fails to make complete and timely payment of any two (2) bills for Electric Service, the Authority shall have the right to require the Customer to deposit with the Authority a sum of money in an amount equal to all charges that would be due under this Agreement for Electric Service for two (2) consecutive calendar months as estimated by the Authority. Such deposit shall be deemed security for the payment of unpaid bills and/or other claims of the Authority against the Customer upon termination of Electric Service. If the Customer fails or refuses to provide the deposit within thirty (30) days of a request for such deposit, the Authority may, in its sole discretion, suspend Electric Service to the Customer or terminate this Agreement.
- I. All other provisions with respect to billing are set forth in the Service Tariff.
- J. The rights and remedies provided to the Authority in this Article are in addition to any and all other rights and remedies available to Authority at law or in equity.

Article V. Transmission and Delivery of Power and Energy

- A. The Customer shall responsible for securing arrangements with its local utility for transmission and delivery service associated with the Allocation unless otherwise agreed to by the Parties.
- B. The Customer will pay its local utility for transmission and delivery service associated with the Allocation in accordance applicable contracts and all applicable tariffs, rulemakings, and orders, in order to deliver to the Customer the Firm Power and Firm Energy supplied by the Authority under this Agreement. To the extent the Authority incurs transmission and delivery service charges or other costs associated with the Allocation during the term of this Agreement, the Customer agrees to compensate the Authority for all such charges and costs incurred.
- C. The Customer understands and acknowledges that delivery of the Allocation will be made over transmission facilities under the control of the NYISO. The Authority will act as the LSE with respect to the NYISO, or arrange for another entity to do so on the Authority's behalf as may be required under the applicable local utility company tariffs. In no event shall the Authority act as the LSE for the power and energy consumed by Customer other than Electric Service (inclusive of Substitute Energy, if any) sold by the Authority under this Agreement. The Customer understands and acknowledges that it will be responsible to the Authority for all charges and other costs incurred by the Authority associated with the provision of Electric Service to enable the Customer to receive the Allocation, including charges and costs contained in the NYISO Tariffs or other applicable tariffs (including local utility company tariffs), regardless of whether such charges and costs are transmission-related. Such charges and costs are in addition to the charges for power and energy.

Article VI. Preservation Power Commitments

- A. Schedule B sets forth the Customer's specific "Preservation Power Commitments." Such commitments are in addition to any other rights and obligations of the Parties provided for in the Agreement.
- B. The Authority's obligation to provide Electric Service to the Customer under this Agreement is expressly conditioned upon the Customer's timely completion of the Capital Expansion Program regarding the Facility as described in Schedule B.
- C. In the event of partial completion of the Capital Expansion Program which results in the Facility expansion being partially completed, the Authority may, upon the Customer's request, provide Electric Service to the Customer in an amount determined by the Authority to fairly correspond to the completed portion of the Facility expansion, provided that the Customer demonstrates that the amount of requested Electric Service is needed to support operations thereat.
- D. The Customer shall give the Authority not less than ninety (90) days' advance notice in writing of the anticipated date of partial or full completion of the Facility expansion. The Authority will inspect the Facility expansion for the purpose of verifying the completion status of the Facility expansion and notify Customer of the results of the inspection. The Authority will thereafter commence Electric Service in accordance with this provision within a reasonable time after verification based on applicable operating procedures of the Authority, the Customer's local electric utility and the NYISO.
- E. In the event the Customer fails to complete the Facility expansion by September 29, 2018 (*i.e.*, within three (3) years of the Authority's award of the Allocation), (i) the Authority may, at its option and discretion, cancel the Allocation, or reduce it by the total amount of kilowatts determined by the Authority to fairly correspond to the uncompleted portion of the Facility expansion, or (ii) upon request of the Customer, such date may be extended by the Authority in its sole discretion.

Article VII. Rules and Service Tariff; Conflicts

The Service Tariff is hereby incorporated into this Agreement with the same force and effect as if set forth herein at length. In the event of any inconsistencies, conflicts or differences between the provisions of the Service Tariff and the Rules, the provisions of the Service Tariff shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of this Agreement and the Service Tariff, the provisions of this Agreement shall govern.

Article VIII. Hydropower Curtailments and Substitute Energy

- A. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of the Authority's firm power customers served by the Authority from the Hydro Projects,

curtailments (*i.e.*, reductions) in the amount of Firm Power and Firm Energy associated with the Allocation to which the Customer is entitled shall be applied on a *pro rata* basis to all firm power and energy customers served from the Hydro Projects, consistent with the Service Tariff as applicable.

- B. The Authority shall provide reasonable notice to the Customer of any curtailments referenced in Article VIII.A of this Agreement that could impact Customer's Electric Service under this Agreement.
- C. Upon written request by the Customer, the Authority will provide Substitute Energy to the Customer to replace the hydroelectricity that would otherwise have been supplied under this Agreement. The provision of Substitute Energy may be terminated by the Authority or the Customer on fifteen (15) days' prior written notice.
- D. For each kilowatt-hour of Substitute Energy supplied by the Authority, the Customer will pay the Authority directly during the billing month: (1) the difference between the market cost of the Substitute Energy and the charge for firm energy as provided for in this Agreement; and (2) any NYISO charges and taxes the Authority incurs in connection with the provision of such Substitute Energy. Billing and payment for Substitute Energy shall be governed by the Billing and Payments provision of the Authority's Rules (Section 454.6) and shall apply directly to the Substitute Energy service supplied to the Customer.
- E. The Parties may enter into a separate agreement to facilitate the provision of Substitute Energy, provided, however, that the provisions of this Agreement shall remain in effect notwithstanding any such separate agreement. The provision of Substitute Energy may be terminated by the Authority or the Customer on fifteen (15) days' prior written notice.

Article IX. Additional Allocations

- A. Upon application by the Customer, the Authority may award additional allocations of PP to the Customer at such rates and on such terms and conditions as set forth in the Service Tariff. Once the Customer agrees to purchase Electric Service associated with such additional allocations, the Authority will produce modified or supplemental Schedules A and B which will reflect any such additional allocations and other pertinent terms as appropriate. The Authority will furnish the Customer with any such modified or supplemental Schedules within thirty (30) days of the commencement of Electric Service for any such additional allocation.
- B. The Customer shall furnish such documentation and other information as the Authority requests to enable the Authority to evaluate (i) whether any additional allocations should be made to the Customer, and (ii) the terms relating to any additional allocation.

Article X. Notification

A. Correspondence involving the administration of this Agreement shall be addressed as follows:

To: The Authority

New York Power Authority
123 Main Street
White Plains, New York 10601
Telephone:
Facsimile: (914) 390-8156
Electronic mail:
Attention: Manager – Business Power Allocations and Compliance

To: Customer

New York Air Brake LLC
748 Starbuck Avenue
Watertown, New York 13601
Telephone:
Facsimile:
Electronic mail:
Attention:

B. Except where otherwise herein specifically provided, any notice, communication or request required or authorized by this Agreement by either Party to the other shall be deemed properly given: (1) if sent by U.S. First Class mail addressed to the Party at the address set forth above; (2) if sent by a nationally recognized overnight delivery service, two (2) calendar days after being deposited for delivery to the appropriate address set forth above; (3) if delivered by hand, with written confirmation of receipt; (4) if sent by facsimile to the appropriate fax number as set forth above, with written confirmation of receipt; or (5) if sent by electronic mail to the appropriate address as set forth above, with written confirmation of receipt. Either Party may change the addressee and/or address for correspondence sent to it by giving written notice in accordance with the foregoing. Any claim, suit, action or any other proceeding in law or equity arising under, or in any way relating to this Agreement shall be governed by and construed in accordance with the laws of the State of New York to the extent that such laws are not inconsistent with the FERC License and rulings by the IJC and without regard to conflicts of law provisions.

Article XI. Venue

Each Party consents to the exclusive jurisdiction and venue of any state or federal court within or for Albany County, New York, with subject matter jurisdiction for adjudication of any claim, suit, action or any other proceeding in law or equity arising under, or in any way relating to this Agreement.

Article XII. Successors and Assigns; Transfers; Resale of PP

- A. This Agreement shall be binding upon, shall inure to the benefit of, and may be performed by, the legal successors and assigns of either Party hereto; provided, however, that no assignment by either Party or any successor or assignee of such Party of its rights and obligations hereunder shall be made or become effective without the prior written consent of the other Party in each case obtained.
- B. The transfer of any portion of the Allocation, or any benefits relating the Allocation, by the Customer to any person, to a different owner or operator of the Facility, or to a different facility, is prohibited unless (i) specifically approved by the Authority, and, (ii) all other legal requirements applicable to such a transfer are complied with. Any transfer that occurs without such approval and compliance shall be invalid and transfer may in the Authority's sole discretion subject the transferor to revocation or modification of the Allocation and/or this Agreement.
- C. The Customer may not resell any portion of the Allocation to any person. If such a sale occurs, the Authority may, in its sole discretion, terminate the Allocation and/or this Agreement.

Article XIII. Previous Agreements and Communications

This Agreement shall constitute the sole and complete agreement of the Parties hereto with respect to the sale of PP, and supersedes all previous communications between the Parties hereto, either oral or written, with respect to the sale of PP. No modifications of this Agreement shall be binding upon the Parties hereto or either of them unless such modification is in writing and is signed by a duly authorized officer of each of them.

Article XIV. Waiver

- A. Any waiver at any time by either the Authority or the Customer of their rights with respect to a default or of any other matter arising out of this Agreement shall not be deemed to be a waiver with respect to any other default or matter.
- B. No waiver by either Party of any rights with respect to any matter arising in connection with this Agreement shall be effective unless made in writing and signed by the Party making the waiver.

Article XV. Severability and Voidability

- A. If any term or provision of this Agreement is invalidated, declared unlawful or ineffective in whole or in part by an order of the FERC or a court of competent jurisdiction, such order shall not invalidate the remaining terms or provisions hereof.
- B. Notwithstanding the preceding paragraph, if any provision of this Agreement is rendered void or unenforceable or otherwise modified by a court or agency of competent jurisdiction, the entire Agreement shall, at the option of either Party and only in such circumstances in which such Party's interests are materially and adversely impacted by any such action, be rendered void and unenforceable by such affected Party.

Article XVI. Term, Modification, Termination and Effect

- A. Electric Service under this Agreement shall continue with respect to an Allocation until the earliest of: (1) termination by the Customer with respect to all of the Allocation upon at least ninety (90) days prior written notice to the Authority; (2) termination by Authority pursuant to the Rules upon required notice; or (3) expiration of the Allocation by its own term as specified in Schedule A.
- B. The Customer may exercise a partial termination of the Allocation upon at least thirty (30) days prior written notice to the Authority. The termination shall be effective commencing with the first "Billing Period" as defined in the Service Tariff following the required notice.
- C. The Authority may modify or terminate Electric Service hereunder or modify the quantities of power and energy associated with an Allocation: (1) if such termination or modification is required to comply with any final ruling, order or decision of any regulatory or judicial body of competent jurisdiction (including any licensing or re-licensing order or orders of the FERC or its successor agency); or (2) as otherwise provided in this Agreement or in the Rules.
- D. This Agreement shall become legally binding and effective only upon satisfaction of the following conditions precedent: (1) receipt of approval of this Agreement by the Authority Board of Trustees; (2) receipt of approval of this Agreement by the Governor of the State of New York pursuant to PAL § 1009; and (3) execution of this Agreement by the Authority and the Customer.

Article XVII. Execution

To facilitate execution, this Agreement may be executed in as many counterparts as may be required, and it shall not be necessary that the signatures of, or on behalf of, each Party, or that the signatures of all persons required to bind any Party, appear on each counterpart; but it shall be sufficient that the signature of, or on behalf of, each Party, or that the signatures of the persons required to bind any Party, appear on one or more of the counterparts. All counterparts shall collectively constitute a single agreement. It shall not be necessary in making proof of this Agreement to produce or account for more than a number of counterparts containing the respective signatures of, or on behalf of, all of the Parties hereto. The delivery

of an executed counterpart of this Agreement by email as a PDF file shall be legal and binding and shall have the same full force and effect as if an original executed counterpart of this Agreement had been delivered.

[SIGNATURES FOLLOW ON NEXT PAGE]

AGREED:

NEW YORK AIR BRAKE LLC

BY: _____

Title: _____

Date: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

By: _____
John R. Koelmel, Chairman

Date: _____

SCHEDULE A

PRESERVATION POWER (“PP”) ALLOCATIONS

Customer: New York Air Brake LLC

Type of Allocation	Allocation (kW)	Trustee Approval Date	Expiration Date	Facility
PP	300	September 29, 2015	Seven (7) years from commencement of Electric Service of any portion of this Allocation	748 Starbuck Avenue, Watertown, NY 13601

SCHEDULE B

PRESERVATION POWER COMMITMENTS

ARTICLE I. EMPLOYMENT COMMITMENTS

A. Base Employment Level

The Customer shall establish and maintain the employment level as provided for in the Appendix to this Schedule B (the “Base Employment Level”). Unless otherwise provided for in Schedule B, such Base Employment Level shall be the total number of full-time positions held by: (1) individuals employed by the Customer at the Facility identified in the Appendix to this Schedule B; and (2) individuals who are contractors or are employed by contractors of the Customer and who are assigned to such Facility (collectively, “Base Level Employees”). The number of Base Level Employees shall not include individuals employed on a part-time basis (less than 35 hours per week); provided, however, that two individuals each working at least 20 hours but not more than 35 hours per week shall be counted as one Base Level Employee.

The Customer shall not establish or maintain the Base Employment Level by transfers of employees from previously held positions with the Customer or its affiliates located within New York State, except that the Base Employment Level may be filled by employees of the Customer laid off from other Customer facilities for bona fide economic or management reasons.

The Authority may consider a request to change the Base Employment Level based on a claim of increased productivity, increased efficiency, or adoption of new technologies or for other appropriate reasons as determined by the Authority. The Authority shall have the sole discretion to make any such change.

B. Employment Records and Reports

A record shall be kept monthly by the Customer, and provided on a calendar year basis to the Authority, of the total number of Customer employees and contractor employees at the Facility, as reported to the United States Department of Labor (or as reported in such other record as agreed upon by the Authority and the Customer). Such report shall separately identify Customer employees and contractor employees and shall be certified to be correct by an officer of the Customer, plant manager or such other person authorized by the Customer to prepare and file such report and shall be provided to the Authority on or before the last day of February following the end of the most recent calendar year. The Authority shall have the right to examine and audit on reasonable advance written notice all non-confidential written and electronic records and

data concerning employment levels including, but not limited to, personnel records and summaries held by the Customer and its affiliates relating to employment in New York State.

ARTICLE II. REDUCTIONS OF CONTRACT DEMAND

A. Employment Levels

If the year-end monthly average number of employees is less than 90% of the Base Employment Level set forth in this Schedule B, for the subject calendar year, the Authority may reduce the Contract Demand subject to Article II.C of this Schedule. The maximum amount of reduction will be determined by multiplying the Contract Demand by the quantity one minus the quotient of the average monthly employment during the subject calendar year divided by the Base Employment Level. Any such reduction shall be rounded to the nearest fifty (50) kW. In the event of a reduction of the Contract Demand to zero, the Agreement shall automatically terminate.

B. Power Utilization Levels

A record shall be kept monthly by the Customer, and provided on a calendar year basis to the Authority on or before the last day of February following the end of the most recent calendar year, of the maximum demand utilized each month in the facilities receiving the power covered by the Agreement. If the average of the Customer's six (6) highest Billing Demands (as such term is defined in the Service Tariff) for PP is less than 90% of the Customer's Contract Demand in such calendar year the Authority may reduce the Contract Demand subject to Article II.C of this Schedule. The maximum amount by which the Authority may reduce the Contract Demand shall be determined by multiplying the Contract Demand by the quantity one minus the quotient of the average of the six (6) highest Billing Demands for in such calendar year divided by the Contract Demand. Any such reduction shall be rounded to the nearest fifty (50) kW. In the event of a reduction of the Contract Demand to zero, this Agreement shall automatically terminate.

C. Notice of Intent to Reduce Contract Demand

In the event that the Authority determines that the Contract Demand will be wholly or partially reduced pursuant to this Schedule, the Authority shall provide the Customer with at least thirty (30) days prior written notice of such reduction, specifying the amount of the reduction of Contract Demand and the reason for the reduction, provided, however, that before making the reduction, the Authority may consider the Customer's scheduled or unscheduled maintenance or facilities upgrading periods when such events temporarily reduce plant employment levels or electrical demand as well as business cycle.

ARTICLE III. CAPITAL INVESTMENT

The Customer agrees to undertake the Capital Expansion Program set forth in the Appendix to this Schedule B.

ARTICLE IV. ENERGY EFFICIENCY AUDITS AND INFORMATION REQUESTS

The Customer shall undergo an Energy Efficiency Audit of its facilities and equipment at which the Allocation is consumed at the Customer's expense at least once during the term of this Agreement but in any event not less than once every five years. The Customer will provide the Authority with a copy of the audit or, at the Authority's option, a report describing the results of the audit, and provide documentation requested by the Authority to verify the implementation of any efficiency measures implemented at the facilities.

The Customer agrees to cooperate to make its facilities available at reasonable times and intervals for energy audits and related assessments that the Authority desires to perform, if any, at the Authority's own expense.

The Customer shall provide information requested by the Authority or its designee in surveys, questionnaires and other information requests relating to energy efficiency and energy-related projects, programs and services.

The Customer may, after consultation with the Authority, exclude from written copies of audits, reports and other information provided to the Authority under this Article trade secrets and other information which if disclosed would harm the competitive position of the Customer.

APPENDIX TO SCHEDULE B

I. Base Employment Level

In accordance with Article I of Schedule B, the Customer agrees to a Base Employment Level at the Customer's Facility as indicated below.

Base Employment Level	Facility	Miscellaneous/Notes
Not less than five hundred seventy (570) persons in full-time positions at the Facility within three (3) years of the commencement of Electric Service of any portion of the Allocation to the Facility.	748 Starbuck Avenue, Watertown, NY 13601	

II. Capital Expansion Program

The Customer shall make a total capital investment of at least \$6,655,500 in connection with an expansion of the Facility (the "Capital Investment"). The Capital Investment is expected to consist of the following specific expenditures:

Construction/Lab Set Up:	\$2,300,000
New Equipment:	\$4,355,500
<u>Total Capital Investment:</u>	<u>\$6,655,500</u>

The Capital Investment shall be made, and the expansion of the Facility shall be completed and fully operational, not later than September 29, 2018 (*i.e.*, within three (3) years of the date of the Authority's award of the Allocation). Upon request of the Customer, such date may be extended in the sole discretion of the Authority.

SCHEDULE C
TAKEDOWN SCHEDULE

N/A



POWER AUTHORITY OF THE STATE OF NEW YORK
30 SOUTH PEARL STREET
ALBANY, NY 12207

Schedule of Rates for Sale of Firm Power to
Preservation Power Customers

Service Tariff No. 10

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Schedule of Rates for Firm Power Service

I. Applicability

To sales of Preservation Power (as defined below) directly to a qualified business Customer (as defined below) for firm power service.

II. Abbreviations and Terms

A. The following abbreviations are used:

kW	kilowatt(s)
kW-mo.	kilowatt-month
kWh	kilowatt-hour(s)
MWh	megawatt-hour(s)
NYISO	New York Independent System Operator, Inc. or any successor organization
PAL	New York Public Authorities Law
OATT	Open Access Transmission Tariff

B. The term "Agreement" means an executed Agreement for the Sale of Preservation Power and Energy between the Authority and the Customer (each as defined below).

C. The term "Annual Adjustment Factor" or "AAF" shall have the meaning set forth in Section V herein.

D. The term "Authority" means the Power Authority of the State of New York, a corporate municipal instrumentality and a political subdivision of the State of New York created pursuant to Chapter 772 of the New York Laws of 1931 and existing and operating under Title 1 of Article 5 of the PAL, also known as the "New York Power Authority."

E. The term "Customer" means a business customer who has received an allocation for Preservation Power from the Authority and who purchases Preservation Power directly from the Authority.

F. The term "Electric Service" means the power and energy provided to the Customer in accordance with the Agreement, this Service Tariff and the Rules.

- G. The term "Preservation Power" means Firm Power and Firm Energy made available under this Service Tariff by the Authority from the Project for sale to the Customer for business purposes pursuant to PAL § 1005(5) and (13).
- H. The term "Firm Power" means capacity (kW) that is intended to be always available from the Project subject to the curtailment provisions set forth in the Agreement between the Authority and the Customer and this Service Tariff. Firm Power shall not include peaking power.
- I. The term "Firm Energy" means energy (kWh) associated with Firm Power.
- J. The term "Load Serving Entity" or "LSE" shall have the meaning set forth in the Agreement.
- K. The term "Project" means the Authority's St. Lawrence-FDR Power Project, FERC Project No. 2000.
- L. The term "Rate Year" or "RY" means the period from July 1 through June 30 of the following year.
- M. The term "Rules" means the applicable provisions of Authority's rules and regulations (Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York), as may be modified from time to time by the Authority.
- N. The term "Service Tariff" means this Service Tariff No. 10.

All other capitalized terms and abbreviations used but not defined herein shall have the same meaning as set forth in the Agreement.

III. Monthly Rates and Charges

A. Preservation Power Base Rates

The monthly base rates for demand and energy charges paid by Customer to Authority shall be:

<u>Rate Year</u>	<u>Demand Charge</u> \$/kW-mo.	<u>Energy Charge</u> \$/MWh
2010	6.15	10.52
2011	6.71	11.48
2012	7.32	12.52
2013	7.99	13.66

Beginning with the 2014 Rate Year (July 1, 2014), and for each Rate Year thereafter, such rates shall be subject to an Annual Adjustment Factor set forth in Section V herein.

B. Preservation Power Rates No Lower Than Rural/Domestic Rate

At all times the applicable base rates for demand and energy determined in accordance with Sections III.A and V of this Service Tariff shall be no lower than the rates charged by the Authority for the sale of hydroelectricity for the benefit of rural and domestic customers receiving service in accordance with the Niagara Redevelopment Act, 16 U.S.C. § 836(b)(1) and PAL § 1005(5) (the "Rural/Domestic Rate"). This provision shall be implemented as follows: if the base rates, as determined in accordance with Sections III.A and V of this Service Tariff, are lower than the Rural/Domestic Rate on an average \$/MWh basis, each set of rates measured at 80% load factor which is generally regarded as representative for Preservation Power Customers, then the base rates determined under Sections III.A and V of this Service Tariff will be revised to make them equal to the Rural/Domestic Rate on an average \$/MWh basis. However, the base rates as so revised will have no effect until such time as these base rates are lower than the Rural/Domestic Rate.

C. Monthly Base Rates Exclude Delivery Service Charges

The monthly base rates set forth in this Section III exclude any applicable costs for delivery services provided by the local electric utility.

D. Minimum Monthly Charge

The minimum monthly charge shall equal the product of the demand charge and the contract demand (as defined herein). Such minimum monthly charge shall be in addition to any NYISO Charges or Taxes (each as defined herein) incurred by the Authority with respect to the Customer's Allocation.

E. Billing Period

Any period of approximately thirty (30) days, generally ending with the last day of each calendar month but subject to the billing cycle requirements of the local electric utility in whose service territory the Customer's facilities are located.

F. Billing Demand

The billing demand shall be determined by applying the applicable billing methodology to total meter readings during the billing period. See Section IV.E, below.

G. Billing Energy

The billing energy shall be determined by applying the applicable billing methodology to total meter readings during the billing period. See Section IV.E, below.

H. Contract Demand

The contract demand of each Customer will be the amount of Preservation Power, not to exceed the Customer's Allocation, provided to such Customer by the Authority in accordance with the Agreement. The minimum Contract Demand for any Preservation Power Allocation is 100 kW.

IV. General Provisions

A. Character of Service

Alternating current; sixty cycles, three-phase.

B. Availability of Energy

1. Subject to Section IV.B.2, the Authority shall provide to the Customer in any billing period Firm Energy associated with Firm Power. The offer of Firm Energy for delivery shall fulfill the Authority's obligations for purposes of this provision whether or not the Firm Energy is taken by the Customer.
2. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of NYPA's Firm Power customers served from the Hydro Projects, hydropower curtailments (*i.e.* reductions) in the amount of Firm Power and Firm Energy to which the Customer is entitled shall be applied on a *pro rata* basis to all Firm Power and Firm Energy customers served from the Hydro Projects. Reductions as a percentage of the otherwise required Firm Power and Firm Energy sales will be the same for all Firm Power and Firm Energy customers served from the Hydro Projects. The Authority shall be under no obligation to deliver and will not deliver any such curtailed energy to the Customer in later billing periods. The Customer will receive appropriate bill credits as provided under the Rules.

C. Delivery

For the purpose of this Service Tariff, Firm Power and Firm Energy shall be deemed to be offered when the Authority is able to supply Firm Power and Firm Energy to the Authority's designated NYISO load bus. If, despite such offer, there is a failure of delivery caused by the Customer, NYISO or local electric utility, such failure shall not be subject to a billing adjustment pursuant to Section 454.6(d) of the Rules.

D. Adjustment of Rates

To the extent not inconsistent with the Agreement, the rates contained in this Service Tariff may be revised from time to time on not less than thirty (30) days written notice to the Customer.

E. Billing Methodology and Billing

Unless otherwise specified in the Agreement, the following provisions shall apply:

1. The billing methodology to be used to render bills to the Customer related to its Allocation shall be determined in accordance with the Agreement and delivery agreement between the Authority and, as applicable, the Customer or local electric utility or both.
2. Billing Demand – Unless separately metered, the billing demand charged by the Authority to each Customer will be the highest 15-minute integrated demand during each billing period recorded on the Customer's meter multiplied by a percentage based on load factor sharing, as applicable.
3. Billing Energy – Unless separately metered, the kilowatt-hours charged by the Authority to each Customer will be the total number of kilowatt-hours recorded on the Customer's meter for the billing period multiplied by a percentage based on load factor sharing, as applicable.

F. Payment by Customer to Authority

1. Demand and Energy Charges, Taxes

The Customer shall pay the Authority for Firm Power and Firm Energy during any billing period the higher of either (i) the sum of (a), (b) and (c) below or (ii) the monthly minimum charge as defined herein:

- a. The demand charge per kilowatt for Firm Power specified in this Service Tariff or any modification thereof applied to the Customer's billing demand (as defined in Section IV.E, above) for the billing period; and
- b. The energy charge per MWh for Firm Energy specified in this Service Tariff or any modification thereof applied to the Customer's billing energy (as defined in Section IV.E, above) for the billing period; and
- c. A charge representing reimbursement to the Authority for all applicable Taxes incurred by the Authority as a result of providing Preservation Power allocated to the Customer.

2. Transmission Charge

The Customer shall compensate the Authority for all transmission costs incurred by the Authority with respect to the Allocation, including such costs that are charged pursuant to the OATT.

3. NYISO Transmission and Related Charges ("NYISO Charges")

The Customer shall compensate the Authority for the following NYISO Charges assessed on the Authority for services provided by the NYISO pursuant to its OATT or other tariffs (as the provisions of those tariffs may be amended and in effect from time to time) associated with providing Electric Service to the Customer:

- A. Ancillary Services 1 through 6 and any new ancillary services as may be defined and included in the OATT from time to time;
- B. Marginal losses;
- C. The New York Power Authority Transmission Adjustment Charge ("NTAC");
- D. Congestion costs, less any associated grandfathered Transmission Congestion Contracts ("TCCs") as provided in Attachment K of the OATT;
- E. Any and all other charges, assessments, or other amounts associated with deliveries to Customers or otherwise associated with the Authority's responsibilities as a Load Serving Entity for the Customers that are assessed on the Authority by the NYISO under the provisions of its OATT or under other applicable tariffs; and
- F. Any charges assessed on the Authority with respect to the provision of Electric Service to Customers for facilities needed to maintain reliability and incurred in connection with the NYISO's Comprehensive System Planning Process (or similar reliability-related obligations incurred by the Authority with respect to Electric Service to the Customer), applicable tariffs, or required to be paid by the Authority in accordance with law, regardless of whether such charges are assessed by the NYISO or another third party.

The NYISO Charges, if any, incurred by the Authority on behalf of the Customer, are in addition to the Authority production charges that are charged to the Customer in accordance with other provisions of this Service Tariff.

4. Taxes Defined

Taxes shall be any adjustment as the Authority deems necessary to recover from the Customer any taxes, assessments or any other charges mandated by federal, state or local agencies or authorities that are levied on the Authority or that the Authority is required to collect from the Customer if and to the extent such taxes, assessments or charges are not recovered by the Authority pursuant to another provision of this Service Tariff.

5. Substitute Energy

The Customer shall pay for Substitute Energy, if applicable, as specified in the Agreement.

6. Payment Information

Bills computed under this Service Tariff are due and payable by electronic wire transfer in accordance with the Rules. Such wire transfer shall be made to J P Morgan Chase NY, NY / ABA021000021 / NYPA A/C # 008-030383, unless otherwise indicated in writing by the Authority. In the event that there is a dispute on any items of a bill rendered by the Authority, the Customer shall pay such bill in full. If necessary, any adjustments will be made thereafter.

G. Adjustment of Charges

1. Distribution Losses

The Authority will make appropriate adjustments to compensate for distribution losses of the local electric utility.

2. Transformer Losses

If delivery is made at transmission voltage but metered on the low-voltage side of the Customer's substation, the meter readings will be increased two percent to compensate for transformer losses.

3. Power Factor

Power factor is the ratio of real power (kW) to apparent power (kVa) for any given load and time. The Authority may require the Customer to maintain a power factor of not less than 90%, lagging or leading, at the point of delivery, or as may otherwise be imposed upon the Authority by the local electric utility providing delivery and/or NYISO.

H. Conflicts

In the event of any inconsistencies, conflicts or differences between the provisions of this Service Tariff and the Rules, the provisions of this Service Tariff shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of the Agreement and this Service Tariff, the provisions of the Agreement shall govern.

I. Customer Resales Prohibited

The Customer may not resell any quantity of Preservation Power.

v. Annual Adjustment Factor

A. Adjustment of Rates

1. The AAF will be based upon a weighted average of three indices described below. For each new Rate Year, the index value for the latest available calendar year ("Index Value for the Measuring Year") will be compared to the index value for the calendar year immediately preceding the latest available calendar year (the Index Value for the Measuring Year -1"). The change for each index will then be multiplied by the indicated weights. As described in detail below, these products are then summed, producing the AAF. The AAF will be multiplied by the base rate for the current Rate Year to produce the base rates for the new Rate Year."

Index 1, "BLS Industrial Power Price" (35% weight): The average of the monthly Producer Price Index for Industrial Electric Power, commodity code number 0543, not seasonally adjusted, as reported by the U.S. Department of Labor, Bureau of Labor Statistics ("BLS") electronically on its internet site and consistent with its printed publication, "Producer Price Index Detailed Report". For Index 1, the Index Value for the Measuring Year will be the index for the calendar year immediately preceding July 1 of the new Rate Year.

Index 2, "EIA Average Industrial Power Price" (40% weight): The average weighted annual price (as measured in cents/kWh) for electric sales to the industrial sector in the ten states of CT, MA, ME, NH, NJ, NY, OH, PA, RI and VT ("Selected States") as reported by Coal and Electric Data and Renewables Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration ("EIA"); U.S. Department of Energy Form EIA-861 Final Data File. For Index 2, the Index Value for the Measuring Year will be the index for the calendar year two years preceding July 1 of the new Rate Year.

Index 3, "BLS Industrial Commodities Price Less Fuel" (25% weight): The monthly average of the Producer Price Index for Industrial Commodities less fuel, commodity code number 03T15M05, not seasonally adjusted, as reported by the U.S. Department of Labor, BLS electronically on its internet site and consistent with its printed publication, "Producer Price Index Detailed Report". For Index 3, the Index Value for the Measuring Year will be the index for the calendar year immediately preceding July 1 of the new Rate Year.

2. Annual Adjustment Factor Computation Guide

- Step 1: For each of the three Indices, divide the Index Value for Measuring Year by the Index Value for the Measuring Year-1.
- Step 2: Multiply the ratios determined in Step 1 by percentage weights for each Index. Sum the results to determine the weighted average. This is the AAF.
- Step 3: Multiply the current Rate Year base rate by the AAF calculated in Step 2 to determine the new Rate Year base rate.

The foregoing calculation shall be performed by the Authority consistent with the sample presented in Section V.B below.

3. The Authority shall provide the Customer with notice of any adjustment to the current base rate per the above and with all data and calculations necessary to compute such adjustment by June 15th of each year to be effective on July 1 of such year, commencing in 2014. The values of the latest officially published (electronically or otherwise) versions of the indices and data provided by the BLS and EIA as of June 1 shall be used notwithstanding any subsequent revisions to the indices.
4. If during the term of the Agreement any of the three above indices ceases to be available or ceases to be reflective of the relevant factors or of changes which the indices were intended by the Parties to reflect, the Customer and the Authority shall mutually select a substitute Index. The Parties agree to mutually select substitute indices within 90 days, once notified by the other party that the indices are no longer available or no longer reflect the relevant factors or changes with the indices were intended by the Parties to reflect. Should the 90-day period cover a planned July 1 rate change, the current base rates will remain in effect until substitute indices are selected and the adjusted rates based on the substitute indices will be retroactive to the previous July 1. If unable to reach agreement on substitute indices within the 90-day period, the Parties agree to substitute the mathematic average of the PPI—Intermediate Materials, Supplies and Components (BLS Series ID WPUSOP2000) and the PPI-- Finished Goods (BLS Series ID WPUSOP3000) indices for one or more indices that have ceased to be available and shall assume the percentage weighting(s) of the one or more discontinued indices as indicated in Section V.A.1.

B. Sample Computation of the AAF (hypothetical values for July 1, 2014 implementation):

STEP 1

Determine the Index Value for the Measuring Year (MY) and Measuring Year - 1 (MY-1) for Each Index

- Index 1 - Producer Price Index, Industrial Power

	Measuring Year (2013)	Measuring Year - 1 (2012)
January	171.2	167.8
February	172.8	167.6
March	171.6	168.2
April	173.8	168.6
May	175.1	171.6
June	185.7	180.1
July	186.4	182.7
August	184.7	179.2
September	185.5	181.8
October	175.5	170.2
November	172.2	168.8
December	171.8	166.6
Average	177.2	172.8
Ratio of MY/MY-1		1.03

- Index 2 – EIA Industrial Rate

<u>State</u>	<u>Revenues</u> (\$000s)	<u>Sales</u> (MWh)	<u>Avg. Rate</u> (cents/kWh)
<u>Measuring Year (2012)</u>			
CT	590,972	6,814,757	
MA	1,109,723	13,053,806	
ME	328,594	4,896,176	
NH	304,363	2,874,495	
NJ	1,412,665	15,687,873	
NY	2,001,588	26,379,314	
OH	3,695,978	78,496,166	
PA	3,682,192	63,413,968	
RI	152,533	1,652,593	
VT	<u>155,903</u>	<u>2,173,679</u>	
TOTAL	13,434,511	215,442,827	6.24

Measuring Year -1 (2011)

CT	579,153	6,678,462	
MA	1,076,431	12,662,192	
ME	310,521	4,626,886	
NH	298,276	2,817,005	
NJ	1,370,285	15,217,237	
NY	1,891,501	24,928,452	
OH	3,622,058	76,926,243	
PA	3,571,726	61,511,549	
RI	144,144	1,561,700	
VT	<u>152,785</u>	<u>2,130,205</u>	
TOTAL	13,016,880	209,059,931	6.23

Ratio of MY/MY-1 **1.00**

- Index 3 – Producer Price Index, Industrial Commodities Less Fuel

	Measuring Year <u>(2013)</u>	Measuring Year -1 <u>(2012)</u>
January	190.1	187.2
February	190.9	188.0
March	191.6	188.7
April	192.8	189.9
May	194.7	191.8
June	195.2	192.3
July	195.5	192.3
August	196.0	193.1
September	196.1	193.2
October	196.2	193.8
November	196.6	193.7
December	196.7	194.0
Average	194.4	191.5
Ratio of MY/MY-1		1.02

STEP 2

Determine AAF by Summing the Weighted Indices

<u>Index</u>	<u>Ratio of MY to MY-1</u>	<u>Weight</u>	<u>Weighted Factors</u>
PPI Industrial Power	1.03	0.35	0.361
EIA Industrial Rate	1.00	0.40	0.400
PPI Industrial Commodities less fuel	1.02	0.25	<u>0.255</u>
AAF			1.016

STEP 3

Apply AAF to Calculate the New Rate Year Base Rate

	<u>Demand</u> \$/kW-mo.	<u>Energy</u> \$/MWh
Current Rate Year Base Rate	7.99	13.66
New Rate Year Base Rate	8.12	13.88

POWER AUTHORITY

OF THE

STATE OF NEW YORK

30 South Pearl Street
10th Floor
Albany, New York 12207-3425

**AGREEMENT FOR THE SALE OF
PRESERVATION POWER AND ENERGY**
to
ST. LAWRENCE ZINC COMPANY, LLC

The Power Authority of the State of New York (“Authority”), created pursuant to Chapter 772 of the New York Laws of 1931 and existing under Title 1 of Article 5 of the New York Public Authorities Law (“PAL”), having its office and principal place of business at 30 South Pearl Street, 10th Floor, Albany, New York 12207-3425, hereby enters into this Agreement for the Sale of Preservation Power and Energy (“Agreement”) to St. Lawrence Zinc Company, LLC, having facilities at 408 Sylvia Lake Road, Gouverneur, NY 13642 (“Customer”). The Authority and the Customer are from time to time referred to in this Agreement individually as a “Party” or collectively as the “Parties” and agree as follows:

RECITALS

WHEREAS, the Authority is authorized to sell hydroelectric power produced by the St. Lawrence-FDR Power Project known as Preservation Power (or “PP”), as further defined in this Agreement, to qualified businesses in New York State in accordance with PAL § 1005(5) and (13);

WHEREAS, PP consists of 490 megawatts (“MW”) of firm hydroelectric power and associated energy produced by the St. Lawrence-FDR Power Project;

WHEREAS, St. Lawrence-FDR Power Project hydroelectric power plays an important role in providing competitively priced power for sale to attract and retain business investment and to promote economic development in New York State;

WHEREAS, the Authority has the authority under PAL § 1005(13)(a) to award allocations of PP based on, among other things, the criteria listed in the PAL, including but not limited to an applicant’s long-term commitment to the region as evidenced by the current and planned capital investment; the type and number of jobs supported or created by the allocation; and the state, regional and local economic development strategies and priorities supported by local units of governments in the area in which the recipient’s facilities are located;

WHEREAS, the Customer has applied for an allocation of PP for use at facilities located at 408 Sylvia Lake Road, Gouverneur, NY 13642 (defined in Article I of this Agreement as the “Facility”) to be received upon completion of an expansion of the Facility as provided for in the Capital Expansion Program described in this Agreement;

WHEREAS, on December 16, 2014, the Authority’s Board of Trustees (“Trustees”) approved a 4,000 kilowatt allocation of PP (defined in Article I of this Agreement as the “Allocation”) to the Customer for a seven year term, as further described in this Agreement;

WHEREAS, the provision of Electric Service (defined in Article I of this Agreement) associated with the Allocation is an unbundled service separate from the transmission and delivery service necessary for the Customer to receive the Allocation which will be performed by the Customer’s local utility company;

WHEREAS, the Authority has complied with requirements of PAL § 1009 which specifies the approval process for contracts negotiated by the Authority; and

WHEREAS, the Governor of the State of New York has approved the terms of this Agreement pursuant to PAL § 1009(3).

NOW THEREFORE, in consideration of the mutual covenants herein, the Authority and the Customer agree as follows:

Article I. Definitions

- A. **Agreement** means this Agreement as further described in the preamble, including all documents and other matters attached to and incorporated into the Agreement.
- B. **Allocation** refers to the total amount of PP and associated energy set forth in Schedule A to this Agreement awarded to the Customer.
- C. **Contract Demand** has the meaning set forth in the Service Tariff.
- D. **Electric Service** is Firm Power and Firm Energy associated with the Allocation and sold to the Customer in accordance with the provisions of this Agreement, the Service Tariff, and the Rules.
- E. **Energy Efficiency Audit** means a physical inspection of a building in a manner approved by the Authority that should include the following elements: (1) an assessment of a building's energy use, cost and efficiency which produces an energy utilization index for the building (such as an Energy Use Intensity or Energy Performance Indicator); (2) a comparison of the building's index to indices for similar buildings; (3) an analysis of low-cost/no-cost measures for improving energy efficiency; (4) a listing of potential capital improvements for improving energy consumption; and (5) an initial assessment of potential costs and savings from such measures and improvements.
- F. **Facility** means the Customer's facility identified in Schedule A.
- G. **Firm Energy** has the meaning set forth in the Service Tariff.
- H. **Firm Power** has the meaning set forth in the Service Tariff.
- I. **FERC** means the Federal Energy Regulatory Commission (or any successor organization).
- J. **FERC License** means the license issued by FERC to the Authority for the continued operation and maintenance of the St. Lawrence Project, pursuant to Section 15 of the Federal Power Act, which became effective October 22, 2003 after expiration of the Project's original license issued in 1953.
- K. **Hydro Projects** is a collective reference to the Authority's Niagara Project and St. Lawrence-FDR Project.

- L. **International Joint Commission** (or **IJC**) refers to the entity with responsibility to prevent and resolve disputes between the United States of America and Canada under the *1909 Boundary Waters Treaty* and pursues the common good of both countries as an independent and objective advisor to the two governments. The IJC rules upon applications for approval of projects affecting boundary or transboundary waters and may regulate the operation of these projects.
- M. **Load Serving Entity** (or **LSE**) means an entity designated by a retail electricity customer to provide capacity, energy and ancillary services to serve such customer, in compliance with NYISO Tariffs, rules, manuals and procedures.
- N. **NYISO** means the New York Independent System Operator, Inc. or any successor organization.
- O. **NYISO Charges** has the meaning set forth in the Service Tariff.
- P. **NYISO Tariffs** means the NYISO's Open Access Transmission Tariff or the NYISO's Market Administration and Control Area Services Tariff, as applicable, as such tariffs are modified from time to time, or any successor to such tariffs.
- Q. **PAL** means the New York Public Authorities Law.
- R. **Preservation Power** (or **PP**) has the meaning set forth in the Service Tariff.
- S. **Niagara Project** means the Authority's Niagara Power Project, FERC Project No. 2216.
- T. **Rules** refers to the Authority's Rules and Regulations for Power Service (Part 454 of Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York), as may be modified from time to time by Authority.
- U. **Service Tariff** means the Authority's Service Tariff No. 10, as may be modified from time to time by the Authority, which contains, among other things, the rate schedule establishing rates and other commercial terms for sale of Electric Service to Customer under this Agreement.
- V. **St. Lawrence Project** means the Authority's St. Lawrence-FDR Power Project, FERC Project No. 2000.
- W. **Schedule A** refers to the Schedule A to this Agreement entitled "Preservation Power Allocations" which is attached to and made part of this Agreement.
- X. **Schedule B** refers to the Schedule B to this Agreement entitled "Preservation Power Commitments" which is attached to and made part of this Agreement.
- Y. **Schedule C** refers to Schedule C to this Agreement entitled "Takedown Schedule" which is attached to and made part of this Agreement.

- Z. **Substitute Energy** means energy that the Authority provides at the request of the Customer to replace hydroelectric power that would otherwise have been supplied to the Customer under this Agreement.
- AA. **Taxes** have the meaning set forth in the Service Tariff.
- BB. **Unforced Capacity** (or **UCAP**) is the electric capacity required to be provided by Load Serving Entities to serve electric load as defined by the NYISO Tariffs, rules, manuals and procedures.

Article II. Electric Service

- A. The Authority shall provide Electric Service to the Customer to enable the Customer to receive the Allocation in accordance with this Agreement, the Service Tariff and the Rules. The Customer shall not be entitled to receive Electric Service for any PP Allocation that is not specified in Schedule A.
- B. The Authority will provide, and the Customer shall pay for, Electric Service with respect to the Allocation specified on Schedule A. If Schedule C specifies a Takedown Schedule for the Allocation, the Authority will provide, and the Customer shall take and pay for, Electric Service with respect to the Allocation in accordance with such Takedown Schedule.
- C. The Authority shall provide UCAP in amounts necessary to meet the Customer's NYISO UCAP requirements associated with the Allocation in accordance with the NYISO Tariffs. The Customer shall be responsible to pay the Authority for such UCAP in accordance with the Service Tariff.
- D. The Customer acknowledges and agrees that Customer's local electric utility shall be responsible for delivering the Allocation to the Facility specified in Schedule A, and that the Authority has no responsibility for delivering the Allocation to the Customer.
- E. The Contract Demand and the Allocation may be modified by the Authority if the amount of Firm Power and Firm Energy available for sale as PP from the St. Lawrence Project is modified as required to comply with any ruling, order, or decision of any regulatory or judicial body having jurisdiction, including but not limited to FERC. Any such modification will be made on a pro rata basis to all PP customers, as applicable, based on the terms of such ruling, order, or decision. The Authority will use reasonable efforts to provide at least thirty (30) days prior written notice to the Customer of any such modification unless such notice is inconsistent with such ruling, order or decision.
- F. The Contract Demand may not exceed the Allocation.
- G. By entering into this Agreement, the Customer consents to the exchange of information between the Authority and the Customer's local electric utility pertaining to the Customer that such parties determine is necessary to provide for the allocation, sale and delivery of PP to the

Customer, the proper and efficient implementation of the PP power program, billing related to PP Power, and/or the performance of such parties' obligations under any contracts or other arrangements between them relating to such matters. In addition, the Customer agrees to complete such forms and consents the Authority determines are necessary to effectuate such exchanges of information.

- H. The provision of Electric Service by the Authority shall be dependent upon the existence of a written agreement between the Authority and the Customer's local electric utility providing for the delivery of PP on terms and conditions that are acceptable to the Authority.
- I. The Customer understands and acknowledges that the Authority may from time to time require the Customer to complete forms, provide documentation, execute consents and provide other information (collectively, "Information") the Authority determines is necessary for the provision of Electric Service, the delivery of PP, billing related to the PP program, the effective and proper administration of the PP program, and/or the performance of contracts or other arrangements between the Authority and the Customer's local electric utility. The Customer's failure to provide such Information shall be grounds for the Authority in its sole discretion to withhold or suspend Electric Service to the Customer.

Article III. Rates, Terms and Conditions

- A. The Authority will provide Electric Service to the Customer based on the rates, terms and conditions established in accordance with this Agreement, the Service Tariff and the Rules.
- B. The Service Tariff and the Rules may be amended from time to time by the Authority. The Authority shall provide at least thirty (30) days prior written notice to the Customer of any proposed change in the Service Tariff or the Rules. No subsequent amendment to the Service Tariff or the Rules shall affect the determination of rates for PP to the Customer during the term of the Agreement except insofar as otherwise authorized by this Agreement. This provision shall not limit the Authority's discretion to determine rates applicable to allocations of power and energy awarded to the Customer beyond or in addition to the Allocation.
- C. Notwithstanding any provision of this Agreement to the contrary, the power and energy rates shall be subject to increase by the Authority at any time upon 30 days prior written notice to Customer if, after consideration by the Authority of its legal obligations, the marketability of the output or use of the St. Lawrence Project and the Authority's competitive position with respect to other suppliers, the Authority determines in its discretion that increases in rates obtainable from any other Authority customers will not provide revenues, together with other available Authority funds not needed for operation and maintenance expenses, capital expenses, and reserves, sufficient to meet all requirements specified in the Authority's bond and note resolutions and covenants with the holders of its financial obligations. The Authority shall use its best efforts to inform the Customer at the earliest practicable date of its intent to increase the power and energy rates pursuant to this provision. Any rate increase to the Customer under this subsection shall be on a non-discriminatory basis as compared to other Authority customers that are subject to the Service Tariff after giving consideration to the

factors set forth in the first sentence of this subsection. With respect to any such increase, the Authority shall forward to the Customer with the notice of the increase, an explanation of all reasons for the increase, and shall also identify the sources from which the Authority will obtain the total of increased revenues and the bases upon which the Authority will allocate the increased revenue requirements among its customers. Any such increase in rates shall remain in effect only so long as the Authority determines such increase is necessary to provide revenues for the purposes stated in the preceding sentences.

Article IV. Billing and Billing Methodology

- A. The billing methodology for the Allocation shall be determined on a “load factor sharing” basis in a manner consistent with the local electric utility’s applicable tariffs and any agreement between the Authority and the Customer’s local electric utility. An alternative basis for billing may be used provided the Parties agree in writing and the local electric utility provides its consent if such consent is deemed necessary.
- B. The Authority shall render bills for power and energy by the tenth (10th) business day of the month for charges due for the previous month. Such bills shall include the NYISO Charges and Taxes (as such terms are defined in the Service Tariff) associated with the Allocation. NYISO Charges and Taxes billed to the Customer are subject to adjustments consistent with any subsequent NYISO re-billings to Authority.
- C. The Authority may render bills to the Customer electronically.
- D. The Authority and the Customer may agree in writing to an alternative method for the rendering of bills and for the payment of bills, including but not limited to the use of an Authority-established customer self-service web portal.
- E. The Authority will charge and collect from the Customer all Taxes (including local, state and federal taxes) the Authority determines are applicable, unless the Customer furnishes the Authority with proof satisfactory to the Authority that (i) the Customer is exempt from the payment of any such Taxes, and/or (ii) the Authority is not obligated to collect such Taxes from the Customer. If the Authority is not collecting Taxes from the Customer based on the circumstances described in (i) or (ii) above, the Customer shall immediately inform the Authority of any change in circumstances relating to its tax status that would require the Authority to charge and collect such Taxes from the Customer.
- F. Unless otherwise agreed to by the Authority and the Customer in writing, if the Customer fails to pay any bill when due, an interest charge of two percent (2%) of the amount unpaid shall be added thereto as liquidated damages, and thereafter, as further liquidated damages, an additional interest charge of one and one-half percent (1 1/2%) of the sum unpaid shall be added on the first day of each succeeding billing period until the amount due, including interest, is paid in full.
- G. Unless otherwise agreed to by the Authority and the Customer in writing, in the event the Customer disputes any item of any bill rendered by Authority, the Customer shall pay such

bill in full within the time provided for by this Agreement, and adjustments, if appropriate, will be made thereafter.

- H. If at any time after commencement of Electric Service the Customer fails to make complete and timely payment of any two (2) bills for Electric Service, the Authority shall have the right to require the Customer to deposit with the Authority a sum of money in an amount equal to all charges that would be due under this Agreement for Electric Service for two (2) consecutive calendar months as estimated by the Authority. Such deposit shall be deemed security for the payment of unpaid bills and/or other claims of the Authority against the Customer upon termination of Electric Service. If the Customer fails or refuses to provide the deposit within thirty (30) days of a request for such deposit, the Authority may, in its sole discretion, suspend Electric Service to the Customer or terminate this Agreement.
- I. All other provisions with respect to billing are set forth in the Service Tariff.
- J. The rights and remedies provided to the Authority in this Article are in addition to any and all other rights and remedies available to Authority at law or in equity.

Article V. Transmission and Delivery of Power and Energy

- A. The Customer shall responsible for securing arrangements with its local utility for transmission and delivery service associated with the Allocation unless otherwise agreed to by the Parties.
- B. The Customer will pay its local utility for transmission and delivery service associated with the Allocation in accordance applicable contracts and all applicable tariffs, rulemakings, and orders, in order to deliver to the Customer the Firm Power and Firm Energy supplied by the Authority under this Agreement. To the extent the Authority incurs transmission and delivery service charges or other costs associated with the Allocation during the term of this Agreement, the Customer agrees to compensate the Authority for all such charges and costs incurred.
- C. The Customer understands and acknowledges that delivery of the Allocation will be made over transmission facilities under the control of the NYISO. The Authority will act as the LSE with respect to the NYISO, or arrange for another entity to do so on the Authority's behalf as may be required under the applicable local utility company tariffs. In no event shall the Authority act as the LSE for the power and energy consumed by Customer other than Electric Service (inclusive of Substitute Energy, if any) sold by the Authority under this Agreement. The Customer understands and acknowledges that it will be responsible to the Authority for all charges and other costs incurred by the Authority associated with the provision of Electric Service to enable the Customer to receive the Allocation, including charges and costs contained in the NYISO Tariffs or other applicable tariffs (including local utility company tariffs), regardless of whether such charges and costs are transmission-related. Such charges and costs are in addition to the charges for power and energy.

Article VI. Preservation Power Commitments

- A. Schedule B sets forth the Customer's specific "Preservation Power Commitments." Such commitments are in addition to any other rights and obligations of the Parties provided for in the Agreement.
- B. The Authority's obligation to provide Electric Service to the Customer under this Agreement is expressly conditioned upon the Customer's timely completion of the Capital Expansion Program regarding the Facility as described in Schedule B.
- C. In the event of partial completion of the Capital Expansion Program which results in the Facility expansion being partially completed, the Authority may, upon the Customer's request, provide Electric Service to the Customer in an amount determined by the Authority to fairly correspond to the completed portion of the Facility expansion, provided that the Customer demonstrates that the amount of requested Electric Service is needed to support operations thereat.
- D. The Customer shall give the Authority not less than ninety (90) days' advance notice in writing of the anticipated date of partial or full completion of the Facility expansion. The Authority will inspect the Facility expansion for the purpose of verifying the completion status of the Facility expansion and notify Customer of the results of the inspection. The Authority will thereafter commence Electric Service in accordance with this provision within a reasonable time after verification based on applicable operating procedures of the Authority, the Customer's local electric utility and the NYISO.
- E. In the event the Customer fails to complete the Facility expansion by December 16, 2017 (*i.e.*, within three (3) years of the Authority's award of the Allocation), (i) the Authority may, at its option and discretion, cancel the Allocation, or reduce it by the total amount of kilowatts determined by the Authority to fairly correspond to the uncompleted portion of the Facility expansion, or (ii) upon request of the Customer, such date may be extended by the Authority in its sole discretion.

Article VII. Rules and Service Tariff; Conflicts

The Service Tariff is hereby incorporated into this Agreement with the same force and effect as if set forth herein at length. In the event of any inconsistencies, conflicts or differences between the provisions of the Service Tariff and the Rules, the provisions of the Service Tariff shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of this Agreement and the Service Tariff, the provisions of this Agreement shall govern.

Article VIII. Hydropower Curtailments and Substitute Energy

- A. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of the Authority's firm power customers served by the Authority from the Hydro Projects,

curtailments (*i.e.*, reductions) in the amount of Firm Power and Firm Energy associated with the Allocation to which the Customer is entitled shall be applied on a *pro rata* basis to all firm power and energy customers served from the Hydro Projects, consistent with the Service Tariff as applicable.

- B. The Authority shall provide reasonable notice to the Customer of any curtailments referenced in Article VIII.A of this Agreement that could impact Customer's Electric Service under this Agreement.
- C. Upon written request by the Customer, the Authority will provide Substitute Energy to the Customer to replace the hydroelectricity that would otherwise have been supplied under this Agreement. The provision of Substitute Energy may be terminated by the Authority or the Customer on fifteen (15) days' prior written notice.
- D. For each kilowatt-hour of Substitute Energy supplied by the Authority, the Customer will pay the Authority directly during the billing month: (1) the difference between the market cost of the Substitute Energy and the charge for firm energy as provided for in this Agreement; and (2) any NYISO charges and taxes the Authority incurs in connection with the provision of such Substitute Energy. Billing and payment for Substitute Energy shall be governed by the Billing and Payments provision of the Authority's Rules (Section 454.6) and shall apply directly to the Substitute Energy service supplied to the Customer.
- E. The Parties may enter into a separate agreement to facilitate the provision of Substitute Energy, provided, however, that the provisions of this Agreement shall remain in effect notwithstanding any such separate agreement. The provision of Substitute Energy may be terminated by the Authority or the Customer on fifteen (15) days' prior written notice.

Article IX. Additional Allocations

- A. Upon application by the Customer, the Authority may award additional allocations of PP to the Customer at such rates and on such terms and conditions as set forth in the Service Tariff. Once the Customer agrees to purchase Electric Service associated with such additional allocations, the Authority will produce modified or supplemental Schedules A and B which will reflect any such additional allocations and other pertinent terms as appropriate. The Authority will furnish the Customer with any such modified or supplemental Schedules within thirty (30) days of the commencement of Electric Service for any such additional allocation.
- B. The Customer shall furnish such documentation and other information as the Authority requests to enable the Authority to evaluate (i) whether any additional allocations should be made to the Customer, and (ii) the terms relating to any additional allocation.

Article X. Notification

A. Correspondence involving the administration of this Agreement shall be addressed as follows:

To: The Authority

New York Power Authority
123 Main Street
White Plains, New York 10601
Telephone:
Facsimile: (914) 390-8156
Electronic mail:
Attention: Manager – Business Power Allocations and Compliance

To: Customer

St. Lawrence Zinc Company, LLC
408 Sylvia Lake Road
Gouverneur, New York 13642
Telephone:
Facsimile:
Electronic mail:
Attention:

B. Except where otherwise herein specifically provided, any notice, communication or request required or authorized by this Agreement by either Party to the other shall be deemed properly given: (1) if sent by U.S. First Class mail addressed to the Party at the address set forth above; (2) if sent by a nationally recognized overnight delivery service, two (2) calendar days after being deposited for delivery to the appropriate address set forth above; (3) if delivered by hand, with written confirmation of receipt; (4) if sent by facsimile to the appropriate fax number as set forth above, with written confirmation of receipt; or (5) if sent by electronic mail to the appropriate address as set forth above, with written confirmation of receipt. Either Party may change the addressee and/or address for correspondence sent to it by giving written notice in accordance with the foregoing. Any claim, suit, action or any other proceeding in law or equity arising under, or in any way relating to this Agreement shall be governed by and construed in accordance with the laws of the State of New York to the extent that such laws are not inconsistent with the FERC License and rulings by the IJC and without regard to conflicts of law provisions.

Article XI. Venue

Each Party consents to the exclusive jurisdiction and venue of any state or federal court within or for Albany County, New York, with subject matter jurisdiction for adjudication of any claim, suit, action or any other proceeding in law or equity arising under, or in any way relating to this Agreement.

Article XII. Successors and Assigns; Transfers; Resale of PP

- A. This Agreement shall be binding upon, shall inure to the benefit of, and may be performed by, the legal successors and assigns of either Party hereto; provided, however, that no assignment by either Party or any successor or assignee of such Party of its rights and obligations hereunder shall be made or become effective without the prior written consent of the other Party in each case obtained.
- B. The transfer of any portion of the Allocation, or any benefits relating the Allocation, by the Customer to any person, to a different owner or operator of the Facility, or to a different facility, is prohibited unless (i) specifically approved by the Authority, and, (ii) all other legal requirements applicable to such a transfer are complied with. Any transfer that occurs without such approval and compliance shall be invalid and transfer may in the Authority's sole discretion subject the transferor to revocation or modification of the Allocation and/or this Agreement.
- C. The Customer may not resell any portion of the Allocation to any person. If such a sale occurs, the Authority may, in its sole discretion, terminate the Allocation and/or this Agreement.

Article XIII. Previous Agreements and Communications

This Agreement shall constitute the sole and complete agreement of the Parties hereto with respect to the sale of PP, and supersedes all previous communications between the Parties hereto, either oral or written, with respect to the sale of PP. No modifications of this Agreement shall be binding upon the Parties hereto or either of them unless such modification is in writing and is signed by a duly authorized officer of each of them.

Article XIV. Waiver

- A. Any waiver at any time by either the Authority or the Customer of their rights with respect to a default or of any other matter arising out of this Agreement shall not be deemed to be a waiver with respect to any other default or matter.
- B. No waiver by either Party of any rights with respect to any matter arising in connection with this Agreement shall be effective unless made in writing and signed by the Party making the waiver.

Article XV. Severability and Voidability

- A. If any term or provision of this Agreement is invalidated, declared unlawful or ineffective in whole or in part by an order of the FERC or a court of competent jurisdiction, such order shall not invalidate the remaining terms or provisions hereof.
- B. Notwithstanding the preceding paragraph, if any provision of this Agreement is rendered void or unenforceable or otherwise modified by a court or agency of competent jurisdiction, the entire Agreement shall, at the option of either Party and only in such circumstances in which such Party's interests are materially and adversely impacted by any such action, be rendered void and unenforceable by such affected Party.

Article XVI. Term, Modification, Termination and Effect

- A. Electric Service under this Agreement shall continue with respect to an Allocation until the earliest of: (1) termination by the Customer with respect to all of the Allocation upon at least ninety (90) days prior written notice to the Authority; (2) termination by Authority pursuant to the Rules upon required notice; or (3) expiration of the Allocation by its own term as specified in Schedule A.
- B. The Customer may exercise a partial termination of the Allocation upon at least thirty (30) days prior written notice to the Authority. The termination shall be effective commencing with the first "Billing Period" as defined in the Service Tariff following the required notice.
- C. The Authority may modify or terminate Electric Service hereunder or modify the quantities of power and energy associated with an Allocation: (1) if such termination or modification is required to comply with any final ruling, order or decision of any regulatory or judicial body of competent jurisdiction (including any licensing or re-licensing order or orders of the FERC or its successor agency); or (2) as otherwise provided in this Agreement or in the Rules.
- D. This Agreement shall become legally binding and effective only upon satisfaction of the following conditions precedent: (1) receipt of approval of this Agreement by the Authority Board of Trustees; (2) receipt of approval of this Agreement by the Governor of the State of New York pursuant to PAL § 1009; and (3) execution of this Agreement by the Authority and the Customer.

Article XVII. Execution

To facilitate execution, this Agreement may be executed in as many counterparts as may be required, and it shall not be necessary that the signatures of, or on behalf of, each Party, or that the signatures of all persons required to bind any Party, appear on each counterpart; but it shall be sufficient that the signature of, or on behalf of, each Party, or that the signatures of the persons required to bind any Party, appear on one or more of the counterparts. All counterparts shall collectively constitute a single agreement. It shall not be necessary in making proof of this Agreement to produce or account for more than a number of counterparts containing the respective signatures of, or on behalf of, all of the Parties hereto. The delivery

of an executed counterpart of this Agreement by email as a PDF file shall be legal and binding and shall have the same full force and effect as if an original executed counterpart of this Agreement had been delivered.

[SIGNATURES FOLLOW ON NEXT PAGE]

AGREED:

ST. LAWRENCE ZINC COMPANY, LLC

BY: _____

Title: _____

Date: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

By: _____
John R. Koelmel, Chairman

Date: _____

SCHEDULE A

PRESERVATION POWER ALLOCATIONS

Customer: St. Lawrence Zinc Company, LLC

Type of Allocation	Allocation (kW)	Trustee Approval Date	Expiration Date	Facility
PP	4,000	December 16, 2014	Seven (7) years from commencement of Electric Service of any portion of this Allocation	408 Sylvia Lake Road, Gouverneur, NY 13642

SCHEDULE B

PRESERVATION POWER COMMITMENTS

ARTICLE I. EMPLOYMENT COMMITMENTS

A. Base Employment Level

The Customer shall establish and maintain the employment level as provided for in the Appendix to this Schedule B (the “Base Employment Level”). Unless otherwise provided for in Schedule B, such Base Employment Level shall be the total number of full-time positions held by: (1) individuals employed by the Customer at the Facility identified in the Appendix to this Schedule B; and (2) individuals who are contractors or are employed by contractors of the Customer and who are assigned to such Facility (collectively, “Base Level Employees”). The number of Base Level Employees shall not include individuals employed on a part-time basis (less than 35 hours per week); provided, however, that two individuals each working at least 20 hours but not more than 35 hours per week shall be counted as one Base Level Employee.

The Customer shall not establish or maintain the Base Employment Level by transfers of employees from previously held positions with the Customer or its affiliates located within New York State, except that the Base Employment Level may be filled by employees of the Customer laid off from other Customer facilities for bona fide economic or management reasons.

The Authority may consider a request to change the Base Employment Level based on a claim of increased productivity, increased efficiency, or adoption of new technologies or for other appropriate reasons as determined by the Authority. The Authority shall have the sole discretion to make any such change.

B. Employment Records and Reports

A record shall be kept monthly by the Customer, and provided on a calendar year basis to the Authority, of the total number of Customer employees and contractor employees at the Facility, as reported to the United States Department of Labor (or as reported in such other record as agreed upon by the Authority and the Customer). Such report shall separately identify Customer employees and contractor employees and shall be certified to be correct by an officer of the Customer, plant manager or such other person authorized by the Customer to prepare and file such report and shall be provided to the Authority on or before the last day of February following the end of the most recent calendar year. The Authority shall have the right to examine and audit on reasonable advance written notice all non-confidential written and electronic records and

data concerning employment levels including, but not limited to, personnel records and summaries held by the Customer and its affiliates relating to employment in New York State.

ARTICLE II. REDUCTIONS OF CONTRACT DEMAND

A. Employment Levels

If the year-end monthly average number of employees is less than 90% of the Base Employment Level set forth in this Schedule B, for the subject calendar year, the Authority may reduce the Contract Demand subject to Article II.C of this Schedule. The maximum amount of reduction will be determined by multiplying the Contract Demand by the quantity one minus the quotient of the average monthly employment during the subject calendar year divided by the Base Employment Level. Any such reduction shall be rounded to the nearest fifty (50) kW. In the event of a reduction of the Contract Demand to zero, the Agreement shall automatically terminate.

B. Power Utilization Levels

A record shall be kept monthly by the Customer, and provided on a calendar year basis to the Authority on or before the last day of February following the end of the most recent calendar year, of the maximum demand utilized each month in the facilities receiving the power covered by the Agreement. If the average of the Customer's six (6) highest Billing Demands (as such term is defined in the Service Tariff) for PP is less than 90% of the Customer's Contract Demand in such calendar year the Authority may reduce the Contract Demand subject to Article II.C of this Schedule. The maximum amount by which the Authority may reduce the Contract Demand shall be determined by multiplying the Contract Demand by the quantity one minus the quotient of the average of the six (6) highest Billing Demands for in such calendar year divided by the Contract Demand. Any such reduction shall be rounded to the nearest fifty (50) kW. In the event of a reduction of the Contract Demand to zero, this Agreement shall automatically terminate.

C. Notice of Intent to Reduce Contract Demand

In the event that the Authority determines that the Contract Demand will be wholly or partially reduced pursuant to this Schedule, the Authority shall provide the Customer with at least thirty (30) days prior written notice of such reduction, specifying the amount of the reduction of Contract Demand and the reason for the reduction, provided, however, that before making the reduction, the Authority may consider the Customer's scheduled or unscheduled maintenance or facilities upgrading periods when such events temporarily reduce plant employment levels or electrical demand as well as business cycle.

ARTICLE III. CAPITAL INVESTMENT

The Customer agrees to undertake the Capital Expansion Program set forth in the Appendix to this Schedule B.

ARTICLE IV. ENERGY EFFICIENCY AUDITS AND INFORMATION REQUESTS

The Customer shall undergo an Energy Efficiency Audit of its facilities and equipment at which the Allocation is consumed at the Customer's expense at least once during the term of this Agreement but in any event not less than once every five years. The Customer will provide the Authority with a copy of the audit or, at the Authority's option, a report describing the results of the audit, and provide documentation requested by the Authority to verify the implementation of any efficiency measures implemented at the facilities.

The Customer agrees to cooperate to make its facilities available at reasonable times and intervals for energy audits and related assessments that the Authority desires to perform, if any, at the Authority's own expense.

The Customer shall provide information requested by the Authority or its designee in surveys, questionnaires and other information requests relating to energy efficiency and energy-related projects, programs and services.

The Customer may, after consultation with the Authority, exclude from written copies of audits, reports and other information provided to the Authority under this Article trade secrets and other information which if disclosed would harm the competitive position of the Customer.

APPENDIX TO SCHEDULE B

I. Base Employment Level

In accordance with Article I of Schedule B, the Customer agrees to a Base Employment Level at the Customer's Facility as indicated below.

Base Employment Level	Facility	Miscellaneous/Notes
Not less than one hundred eight (108) persons in full-time positions at the Facility within three (3) years of the commencement of Electric Service of any portion of the Allocation to the Facility.	408 Sylvia Lake Road, Gouverneur, NY 13642	

II. Capital Expansion Program

The Customer shall make a total capital investment of at least \$33,800,000 in connection with an expansion of the Facility (the "Capital Investment"). The Capital Investment is expected to consist of the following specific expenditures:

Purchase of Zinc Mine:	\$17, 500,000
Mine Refurbishment:	\$12,800,000
Mine Exploration:	\$3,500,000
Total Capital Investment:	<u>\$33,800,000</u>

The Capital Investment shall be made, and the expansion of the Facility shall be completed and fully operational, not later than December 16, 2017 (*i.e.*, within three (3) years of the date of the Authority's award of the Allocation). Upon request of the Customer, such date may be extended in the sole discretion of the Authority.

SCHEDULE C
TAKEDOWN SCHEDULE

N/A



POWER AUTHORITY OF THE STATE OF NEW YORK
30 SOUTH PEARL STREET
ALBANY, NY 12207

Schedule of Rates for Sale of Firm Power to
Preservation Power Customers

Service Tariff No. 10

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Schedule of Rates for Firm Power Service

I. Applicability

To sales of Preservation Power (as defined below) directly to a qualified business Customer (as defined below) for firm power service.

II. Abbreviations and Terms

A. The following abbreviations are used:

kW	kilowatt(s)
kW-mo.	kilowatt-month
kWh	kilowatt-hour(s)
MWh	megawatt-hour(s)
NYISO	New York Independent System Operator, Inc. or any successor organization
PAL	New York Public Authorities Law
OATT	Open Access Transmission Tariff

B. The term "Agreement" means an executed Agreement for the Sale of Preservation Power and Energy between the Authority and the Customer (each as defined below).

C. The term "Annual Adjustment Factor" or "AAF" shall have the meaning set forth in Section V herein.

D. The term "Authority" means the Power Authority of the State of New York, a corporate municipal instrumentality and a political subdivision of the State of New York created pursuant to Chapter 772 of the New York Laws of 1931 and existing and operating under Title 1 of Article 5 of the PAL, also known as the "New York Power Authority."

E. The term "Customer" means a business customer who has received an allocation for Preservation Power from the Authority and who purchases Preservation Power directly from the Authority.

F. The term "Electric Service" means the power and energy provided to the Customer in accordance with the Agreement, this Service Tariff and the Rules.

- G. The term "Preservation Power" means Firm Power and Firm Energy made available under this Service Tariff by the Authority from the Project for sale to the Customer for business purposes pursuant to PAL § 1005(5) and (13).
- H. The term "Firm Power" means capacity (kW) that is intended to be always available from the Project subject to the curtailment provisions set forth in the Agreement between the Authority and the Customer and this Service Tariff. Firm Power shall not include peaking power.
- I. The term "Firm Energy" means energy (kWh) associated with Firm Power.
- J. The term "Load Serving Entity" or "LSE" shall have the meaning set forth in the Agreement.
- K. The term "Project" means the Authority's St. Lawrence-FDR Power Project, FERC Project No. 2000.
- L. The term "Rate Year" or "RY" means the period from July 1 through June 30 of the following year.
- M. The term "Rules" means the applicable provisions of Authority's rules and regulations (Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York), as may be modified from time to time by the Authority.
- N. The term "Service Tariff" means this Service Tariff No. 10.

All other capitalized terms and abbreviations used but not defined herein shall have the same meaning as set forth in the Agreement.

III. Monthly Rates and Charges

A. Preservation Power Base Rates

The monthly base rates for demand and energy charges paid by Customer to Authority shall be:

<u>Rate Year</u>	<u>Demand Charge</u> \$/kW-mo.	<u>Energy Charge</u> \$/MWh
2010	6.15	10.52
2011	6.71	11.48
2012	7.32	12.52
2013	7.99	13.66

Beginning with the 2014 Rate Year (July 1, 2014), and for each Rate Year thereafter, such rates shall be subject to an Annual Adjustment Factor set forth in Section V herein.

B. Preservation Power Rates No Lower Than Rural/Domestic Rate

At all times the applicable base rates for demand and energy determined in accordance with Sections III.A and V of this Service Tariff shall be no lower than the rates charged by the Authority for the sale of hydroelectricity for the benefit of rural and domestic customers receiving service in accordance with the Niagara Redevelopment Act, 16 U.S.C. § 836(b)(1) and PAL § 1005(5) (the "Rural/Domestic Rate"). This provision shall be implemented as follows: if the base rates, as determined in accordance with Sections III.A and V of this Service Tariff, are lower than the Rural/Domestic Rate on an average \$/MWh basis, each set of rates measured at 80% load factor which is generally regarded as representative for Preservation Power Customers, then the base rates determined under Sections III.A and V of this Service Tariff will be revised to make them equal to the Rural/Domestic Rate on an average \$/MWh basis. However, the base rates as so revised will have no effect until such time as these base rates are lower than the Rural/Domestic Rate.

C. Monthly Base Rates Exclude Delivery Service Charges

The monthly base rates set forth in this Section III exclude any applicable costs for delivery services provided by the local electric utility.

D. Minimum Monthly Charge

The minimum monthly charge shall equal the product of the demand charge and the contract demand (as defined herein). Such minimum monthly charge shall be in addition to any NYISO Charges or Taxes (each as defined herein) incurred by the Authority with respect to the Customer's Allocation.

E. Billing Period

Any period of approximately thirty (30) days, generally ending with the last day of each calendar month but subject to the billing cycle requirements of the local electric utility in whose service territory the Customer's facilities are located.

F. Billing Demand

The billing demand shall be determined by applying the applicable billing methodology to total meter readings during the billing period. See Section IV.E, below.

G. Billing Energy

The billing energy shall be determined by applying the applicable billing methodology to total meter readings during the billing period. See Section IV.E, below.

H. Contract Demand

The contract demand of each Customer will be the amount of Preservation Power, not to exceed the Customer's Allocation, provided to such Customer by the Authority in accordance with the Agreement. The minimum Contract Demand for any Preservation Power Allocation is 100 kW.

IV. General Provisions

A. Character of Service

Alternating current; sixty cycles, three-phase.

B. Availability of Energy

1. Subject to Section IV.B.2, the Authority shall provide to the Customer in any billing period Firm Energy associated with Firm Power. The offer of Firm Energy for delivery shall fulfill the Authority's obligations for purposes of this provision whether or not the Firm Energy is taken by the Customer.
2. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of NYPA's Firm Power customers served from the Hydro Projects, hydropower curtailments (*i.e.* reductions) in the amount of Firm Power and Firm Energy to which the Customer is entitled shall be applied on a *pro rata* basis to all Firm Power and Firm Energy customers served from the Hydro Projects. Reductions as a percentage of the otherwise required Firm Power and Firm Energy sales will be the same for all Firm Power and Firm Energy customers served from the Hydro Projects. The Authority shall be under no obligation to deliver and will not deliver any such curtailed energy to the Customer in later billing periods. The Customer will receive appropriate bill credits as provided under the Rules.

C. Delivery

For the purpose of this Service Tariff, Firm Power and Firm Energy shall be deemed to be offered when the Authority is able to supply Firm Power and Firm Energy to the Authority's designated NYISO load bus. If, despite such offer, there is a failure of delivery caused by the Customer, NYISO or local electric utility, such failure shall not be subject to a billing adjustment pursuant to Section 454.6(d) of the Rules.

D. Adjustment of Rates

To the extent not inconsistent with the Agreement, the rates contained in this Service Tariff may be revised from time to time on not less than thirty (30) days written notice to the Customer.

E. Billing Methodology and Billing

Unless otherwise specified in the Agreement, the following provisions shall apply:

1. The billing methodology to be used to render bills to the Customer related to its Allocation shall be determined in accordance with the Agreement and delivery agreement between the Authority and, as applicable, the Customer or local electric utility or both.
2. Billing Demand – Unless separately metered, the billing demand charged by the Authority to each Customer will be the highest 15-minute integrated demand during each billing period recorded on the Customer's meter multiplied by a percentage based on load factor sharing, as applicable.
3. Billing Energy – Unless separately metered, the kilowatt-hours charged by the Authority to each Customer will be the total number of kilowatt-hours recorded on the Customer's meter for the billing period multiplied by a percentage based on load factor sharing, as applicable.

F. Payment by Customer to Authority

1. Demand and Energy Charges, Taxes

The Customer shall pay the Authority for Firm Power and Firm Energy during any billing period the higher of either (i) the sum of (a), (b) and (c) below or (ii) the monthly minimum charge as defined herein:

- a. The demand charge per kilowatt for Firm Power specified in this Service Tariff or any modification thereof applied to the Customer's billing demand (as defined in Section IV.E, above) for the billing period; and
- b. The energy charge per MWh for Firm Energy specified in this Service Tariff or any modification thereof applied to the Customer's billing energy (as defined in Section IV.E, above) for the billing period; and
- c. A charge representing reimbursement to the Authority for all applicable Taxes incurred by the Authority as a result of providing Preservation Power allocated to the Customer.

2. Transmission Charge

The Customer shall compensate the Authority for all transmission costs incurred by the Authority with respect to the Allocation, including such costs that are charged pursuant to the OATT.

3. NYISO Transmission and Related Charges ("NYISO Charges")

The Customer shall compensate the Authority for the following NYISO Charges assessed on the Authority for services provided by the NYISO pursuant to its OATT or other tariffs (as the provisions of those tariffs may be amended and in effect from time to time) associated with providing Electric Service to the Customer:

- A. Ancillary Services 1 through 6 and any new ancillary services as may be defined and included in the OATT from time to time;
- B. Marginal losses;
- C. The New York Power Authority Transmission Adjustment Charge ("NTAC");
- D. Congestion costs, less any associated grandfathered Transmission Congestion Contracts ("TCCs") as provided in Attachment K of the OATT;
- E. Any and all other charges, assessments, or other amounts associated with deliveries to Customers or otherwise associated with the Authority's responsibilities as a Load Serving Entity for the Customers that are assessed on the Authority by the NYISO under the provisions of its OATT or under other applicable tariffs; and
- F. Any charges assessed on the Authority with respect to the provision of Electric Service to Customers for facilities needed to maintain reliability and incurred in connection with the NYISO's Comprehensive System Planning Process (or similar reliability-related obligations incurred by the Authority with respect to Electric Service to the Customer), applicable tariffs, or required to be paid by the Authority in accordance with law, regardless of whether such charges are assessed by the NYISO or another third party.

The NYISO Charges, if any, incurred by the Authority on behalf of the Customer, are in addition to the Authority production charges that are charged to the Customer in accordance with other provisions of this Service Tariff.

4. Taxes Defined

Taxes shall be any adjustment as the Authority deems necessary to recover from the Customer any taxes, assessments or any other charges mandated by federal, state or local agencies or authorities that are levied on the Authority or that the Authority is required to collect from the Customer if and to the extent such taxes, assessments or charges are not recovered by the Authority pursuant to another provision of this Service Tariff.

5. Substitute Energy

The Customer shall pay for Substitute Energy, if applicable, as specified in the Agreement.

6. Payment Information

Bills computed under this Service Tariff are due and payable by electronic wire transfer in accordance with the Rules. Such wire transfer shall be made to J P Morgan Chase NY, NY / ABA021000021 / NYPA A/C # 008-030383, unless otherwise indicated in writing by the Authority. In the event that there is a dispute on any items of a bill rendered by the Authority, the Customer shall pay such bill in full. If necessary, any adjustments will be made thereafter.

G. Adjustment of Charges

1. Distribution Losses

The Authority will make appropriate adjustments to compensate for distribution losses of the local electric utility.

2. Transformer Losses

If delivery is made at transmission voltage but metered on the low-voltage side of the Customer's substation, the meter readings will be increased two percent to compensate for transformer losses.

3. Power Factor

Power factor is the ratio of real power (kW) to apparent power (kVa) for any given load and time. The Authority may require the Customer to maintain a power factor of not less than 90%, lagging or leading, at the point of delivery, or as may otherwise be imposed upon the Authority by the local electric utility providing delivery and/or NYISO.

H. Conflicts

In the event of any inconsistencies, conflicts or differences between the provisions of this Service Tariff and the Rules, the provisions of this Service Tariff shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of the Agreement and this Service Tariff, the provisions of the Agreement shall govern.

I. Customer Resales Prohibited

The Customer may not resell any quantity of Preservation Power.

v. Annual Adjustment Factor

A. Adjustment of Rates

1. The AAF will be based upon a weighted average of three indices described below. For each new Rate Year, the index value for the latest available calendar year ("Index Value for the Measuring Year") will be compared to the index value for the calendar year immediately preceding the latest available calendar year (the Index Value for the Measuring Year -1"). The change for each index will then be multiplied by the indicated weights. As described in detail below, these products are then summed, producing the AAF. The AAF will be multiplied by the base rate for the current Rate Year to produce the base rates for the new Rate Year."

Index 1, "BLS Industrial Power Price" (35% weight): The average of the monthly Producer Price Index for Industrial Electric Power, commodity code number 0543, not seasonally adjusted, as reported by the U.S. Department of Labor, Bureau of Labor Statistics ("BLS") electronically on its internet site and consistent with its printed publication, "Producer Price Index Detailed Report". For Index 1, the Index Value for the Measuring Year will be the index for the calendar year immediately preceding July 1 of the new Rate Year.

Index 2, "EIA Average Industrial Power Price" (40% weight): The average weighted annual price (as measured in cents/kWh) for electric sales to the industrial sector in the ten states of CT, MA, ME, NH, NJ, NY, OH, PA, RI and VT ("Selected States") as reported by Coal and Electric Data and Renewables Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration ("EIA"); U.S. Department of Energy Form EIA-861 Final Data File. For Index 2, the Index Value for the Measuring Year will be the index for the calendar year two years preceding July 1 of the new Rate Year.

Index 3, "BLS Industrial Commodities Price Less Fuel" (25% weight): The monthly average of the Producer Price Index for Industrial Commodities less fuel, commodity code number 03T15M05, not seasonally adjusted, as reported by the U.S. Department of Labor, BLS electronically on its internet site and consistent with its printed publication, "Producer Price Index Detailed Report". For Index 3, the Index Value for the Measuring Year will be the index for the calendar year immediately preceding July 1 of the new Rate Year.

2. Annual Adjustment Factor Computation Guide

- Step 1: For each of the three Indices, divide the Index Value for Measuring Year by the Index Value for the Measuring Year-1.
- Step 2: Multiply the ratios determined in Step 1 by percentage weights for each Index. Sum the results to determine the weighted average. This is the AAF.
- Step 3: Multiply the current Rate Year base rate by the AAF calculated in Step 2 to determine the new Rate Year base rate.

The foregoing calculation shall be performed by the Authority consistent with the sample presented in Section V.B below.

3. The Authority shall provide the Customer with notice of any adjustment to the current base rate per the above and with all data and calculations necessary to compute such adjustment by June 15th of each year to be effective on July 1 of such year, commencing in 2014. The values of the latest officially published (electronically or otherwise) versions of the indices and data provided by the BLS and EIA as of June 1 shall be used notwithstanding any subsequent revisions to the indices.
4. If during the term of the Agreement any of the three above indices ceases to be available or ceases to be reflective of the relevant factors or of changes which the indices were intended by the Parties to reflect, the Customer and the Authority shall mutually select a substitute Index. The Parties agree to mutually select substitute indices within 90 days, once notified by the other party that the indices are no longer available or no longer reflect the relevant factors or changes with the indices were intended by the Parties to reflect. Should the 90-day period cover a planned July 1 rate change, the current base rates will remain in effect until substitute indices are selected and the adjusted rates based on the substitute indices will be retroactive to the previous July 1. If unable to reach agreement on substitute indices within the 90-day period, the Parties agree to substitute the mathematic average of the PPI—Intermediate Materials, Supplies and Components (BLS Series ID WPUSOP2000) and the PPI-- Finished Goods (BLS Series ID WPUSOP3000) indices for one or more indices that have ceased to be available and shall assume the percentage weighting(s) of the one or more discontinued indices as indicated in Section V.A.1.

B. Sample Computation of the AAF (hypothetical values for July 1, 2014 implementation):

STEP 1

Determine the Index Value for the Measuring Year (MY) and Measuring Year - 1 (MY-1) for Each Index

- Index 1 - Producer Price Index, Industrial Power

	Measuring Year (2013)	Measuring Year - 1 (2012)
January	171.2	167.8
February	172.8	167.6
March	171.6	168.2
April	173.8	168.6
May	175.1	171.6
June	185.7	180.1
July	186.4	182.7
August	184.7	179.2
September	185.5	181.8
October	175.5	170.2
November	172.2	168.8
December	171.8	166.6
Average	177.2	172.8
Ratio of MY/MY-1		1.03

- Index 2 – EIA Industrial Rate

<u>State</u>	<u>Revenues</u> (\$000s)	<u>Sales</u> (MWh)	<u>Avg. Rate</u> (cents/kWh)
<u>Measuring Year (2012)</u>			
CT	590,972	6,814,757	
MA	1,109,723	13,053,806	
ME	328,594	4,896,176	
NH	304,363	2,874,495	
NJ	1,412,665	15,687,873	
NY	2,001,588	26,379,314	
OH	3,695,978	78,496,166	
PA	3,682,192	63,413,968	
RI	152,533	1,652,593	
VT	<u>155,903</u>	<u>2,173,679</u>	
TOTAL	13,434,511	215,442,827	6.24

Measuring Year -1 (2011)

CT	579,153	6,678,462	
MA	1,076,431	12,662,192	
ME	310,521	4,626,886	
NH	298,276	2,817,005	
NJ	1,370,285	15,217,237	
NY	1,891,501	24,928,452	
OH	3,622,058	76,926,243	
PA	3,571,726	61,511,549	
RI	144,144	1,561,700	
VT	<u>152,785</u>	<u>2,130,205</u>	
TOTAL	13,016,880	209,059,931	6.23

Ratio of MY/MY-1 **1.00**

- Index 3 – Producer Price Index, Industrial Commodities Less Fuel

	Measuring Year <u>(2013)</u>	Measuring Year -1 <u>(2012)</u>
January	190.1	187.2
February	190.9	188.0
March	191.6	188.7
April	192.8	189.9
May	194.7	191.8
June	195.2	192.3
July	195.5	192.3
August	196.0	193.1
September	196.1	193.2
October	196.2	193.8
November	196.6	193.7
December	196.7	194.0
Average	194.4	191.5
Ratio of MY/MY-1		1.02

STEP 2

Determine AAF by Summing the Weighted Indices

<u>Index</u>	<u>Ratio of MY to MY-1</u>	<u>Weight</u>	<u>Weighted Factors</u>
PPI Industrial Power	1.03	0.35	0.361
EIA Industrial Rate	1.00	0.40	0.400
PPI Industrial Commodities less fuel	1.02	0.25	<u>0.255</u>
AAF			1.016

STEP 3

Apply AAF to Calculate the New Rate Year Base Rate

	<u>Demand</u> \$/kW-mo.	<u>Energy</u> \$/MWh
Current Rate Year Base Rate	7.99	13.66
New Rate Year Base Rate	8.12	13.88

1
2 PUBLIC HEARING 11-19-15

3 Contract for Sale of Preservation Power to
4 New York Air Brake, LLC and
5 St. Lawrence Zinc, LLC
6

7
8
9 November 19, 2015

10 2:30 p.m to 6:30 p.m.

11 Frank S. McCullough, Jr. Hawkins Point Visitors Center
12 St. Lawrence/FDR Power Project

13 830 Barnhart Island

14 Massena, New York 13662
15
16
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21 ORIGINAL
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23

APPEARANCES

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3

Maribel Cruz Brown,
Manager of Business Power Allocations
and Compliance
New York Power Authority
White Plains, New York 10601

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Karen Delince,
Corporate Secretary
New York Power Authority
White Plains, New York 10601

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Lorna Johnson,
Assistant Corporate Secretary
New York Power Authority
White Plains, New York 10601

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1 November 19, 2015, 2:30 p.m.

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3 MS. DELINCE: Good afternoon. This is a public
4 hearing required by law and authorized by the New York
5 Power Authority's Board of Trustees on the proposed
6 Direct Sale Contracts for the sale of hydropower to
7 New York Air Brake, LLC and St. Lawrence Zinc, LLC.
8 My name is Karen Delince and I'm the Authority's
9 Corporate Secretary. New York State Public
10 Authority's Law, Section 1009, sets forth procedures
11 for executing certain contracts negotiated by the
12 Authority. First, prior to the hearing, it requires
13 that notice be provided. Therefore, a notice was sent
14 to: The Governor, the Senate's President Pro Temp,
15 the Senate Minority Leader and the Senate Finance
16 Committee Chair, the Assembly Speaker, the Assembly
17 Minority Leader and the Assembly Ways and Means
18 Committee Chair. In addition, notices appeared in the
19 following newspapers once a week, for the four weeks
20 leading up to this hearing: Albany Times Union,
21 Massena Daily Courier-Observer, Ogdensburg Journal,
22 Plattsburgh Press Republican, Syracuse Post-Standard,
23 Watertown Daily Times.

1 The public was also given access to the proposed
2 contracts on the Authority's website and at the
3 Authority's White Plains office during the 30 days'
4 period prior to today's hearing.

5 After the hearing, the public will be given
6 access to the hearing transcript, once it is
7 completed, at www.nypa.gov and at the White Plains
8 office. The next step in the process set forth in
9 Section 1009 will be for the NYPA Trustees to
10 reconsider the proposed contracts in light of public
11 comments. Once the Trustees have completed their
12 final review, the contracts will be forwarded to the
13 Governor for his consideration and approval.

14 If you plan to make an oral statement at this
15 hearing, I ask that you so indicate on the sign-in
16 sheet. Also, if you have a written statement, please
17 give a copy to Lorna Johnson and one to the reporter.
18 Written statements may be of any length and will
19 appear in the record of the hearing in addition to
20 oral statements. The record of the hearing will
21 remain open for additional comments through close of
22 business Friday, November 20th, 2015. Additional
23 comments should be mailed, Faxed or e-mailed to the

1 corporate secretary at 123 Main Street, 11-P, White
2 Plains, New York 10601 or (914) 390-8040 or
3 secretarys.office@nypa.gov.

4 At this point I would like to introduce Ms.
5 Maribel Cruz Brown, the Authority's Business Power
6 Allocations and Compliance Manager, who will provide
7 additional details on the proposed direct sale
8 contracts. Thank you. Ms. Cruz Brown?

9 MS. CRUZ BROWN: Thank you, Ms. Delince. Good
10 afternoon. My name is Maribel Cruz Brown and I'm the
11 Manager of Business Power Allocations and Compliance
12 at the New York Power Authority. I'm here today to
13 present an overview of the proposed contracts with New
14 York Air Brake for the direct sale of 300 kilowatts of
15 Preservation Power and St. Lawrence Zinc for the
16 direct sale of 4,000 kilowatts of Preservation Power,
17 hydropower that is generated at the Authority's St.
18 Lawrence/FDR Power Project.

19 Preservation Power, established under Public
20 Authority's Law Section 1005, Subsection 13,
21 authorizes the Authority to allocate low-cost
22 hydropower that is relinquished from the block of 490
23 megawatts of St. Lawrence/FDR Power Project firm and

1 interruptible power currently sold to Alcoa and
2 formerly sold to General Motors.

3 The law authorizes the allocation of power to
4 businesses in Northern New York, specifically
5 businesses located in Franklin, Jefferson and St.
6 Lawrence Counties, applying the same allocation
7 criteria as pertains to the Authority's other
8 hydropower programs, Replacement Power and Expansion
9 Power.

10 Each application for an allocation of
11 Preservation Power must be evaluated in consideration
12 of the legislative criteria that includes, but need
13 not be limited to, a consideration of the number of
14 jobs created as a result of the allocation; the
15 business' long-term commitment to the region as
16 evidenced by the current and/or planned capital
17 investment in the business' facilities in the region;
18 the ratio of the number of jobs to be created to the
19 amount of power requested; the types of jobs created,
20 as measured by wage and benefit levels; and the type
21 and cost of buildings, equipment and facilities to be
22 constructed, enlarged or installed.

23 At its meeting on September 29th, 2015, the Power

1 Authority's Board of Trustees approved an allocation
2 of 300 kilowatts of Preservation Power to New York Air
3 Brake in Watertown, Jefferson County, for a term of
4 seven years. Approval of the allocation was based on
5 an evaluation of New York Air Brake's application for
6 hydropower in which it proposed to invest \$6.6 million
7 to expand its existing facility. New York Air Brake
8 committed to create a total of ten new jobs as a
9 result of this expansion.

10 At its meeting on December 16th, 2014, the Power
11 Authority's Board of Trustees approved an allocation
12 of 4,000 kilowatts of Preservation Power to St.
13 Lawrence Zinc in Gouverneur, St. Lawrence County, for
14 a term of seven years. Approval of the allocation was
15 based on an evaluation of St. Lawrence Zinc's
16 application for hydropower in which it proposed to
17 purchase, refurbish, open and operate a mine and mill
18 complex that has been closed since 2008, create 100
19 new jobs and invest \$33.8 million. The public hearing
20 has been delayed on this contract in order to allow
21 St. Lawrence Zinc time to purchase the mine.

22 To summarize some of the pertinent provisions of
23 the proposed contracts: The contracts provide for the

1 direct billing of all hydropower supply charges and
2 all New York Independent System Operator, Inc. charges
3 and taxes.

4 To accommodate non-payment risk that could result
5 from the direct billing arrangement, the contracts
6 include commercially reasonable provisions concerning
7 the Authority's ability to charge late-payment fees
8 and to require deposits in the event of a customer's
9 failure to make payments for any two monthly bills.

10 The contracts include New York Air Brake's and
11 St. Lawrence Zinc's agreed-upon commitments with
12 respect to employment and capital investment, and
13 retain the Authority's right to reduce or terminate
14 the allocation if employment, power utilization or
15 capital investment commitments are not met. For
16 example, the contracts include an annual job reporting
17 requirement and a job compliance threshold of 90
18 percent. Should either company's average annual
19 employment fall below the compliance threshold of 90
20 percent of the employment commitment, the Authority
21 has the right to reduce the allocation on a pro rata
22 basis.

23 The contracts require the companies to perform an

1 energy audit at their facilities at least once within
2 five years in order to ensure that the customer uses
3 the hydropower efficiently. These contract provisions
4 are consistent with other Authority direct sale
5 contracts, including the Western New York and Recharge
6 New York sales contracts.

7 The Authority will provide firm electric service
8 from the St. Lawrence/FDR plant, which is subject to
9 pro rata curtailment when there is insufficient
10 generation at the Niagara and St. Lawrence/FDR
11 facilities to meet all its firm load requirements.
12 The rates, terms and conditions for the sale of
13 Preservation Power are contained in the Authority's
14 "Schedule of Rates for Sale of Firm Power to
15 Preservation Power Customers - Service Tariff No. 10."
16 Delivery service will be provided and billed by the
17 local utility, National Grid, in accordance with its
18 Public Service Commission approved delivery service
19 tariff.

20 As Ms. Delince stated earlier, the Authority will
21 accept your comments on the proposed contracts until
22 the close of business tomorrow.

23 I will now turn the forum back to Ms. Delince.

1 MS. DELINCE: Thank you, Ms. Cruz Brown. We will
2 recess now and reconvene when speakers arrive.

3
4 (Recess from 2:40 p.m. to 6:30 p.m.)
5

6 MS. DELINCE: The November 19th, 2015 public
7 hearing on the proposed direct sale contracts to New
8 York Air Brake, LLC and St. Lawrence Zinc, LLC is now
9 officially closed. As previously stated, the record
10 of the hearing will remain open for additional
11 comments through close of business Friday, November
12 20th, 2015. Thank you and good night.

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14 (End of public hearing at 6:31 p.m.)
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1 STATE OF NEW YORK)

2 COUNTY OF ST. LAWRENCE)

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5 I, Heidi C. Simmons, a Notary Public in the state of
6 New York, do hereby certify that the foregoing public
7 hearing was taken before me at the place as stated in the
8 caption hereto, at Page 1 hereof; that the foregoing
9 typewritten transcription, consisting of pages numbered 3
10 to 10, inclusive, was produced to the best of my ability of
11 said hearing.

12 IN WITNESS WHEREOF, I have hereunto subscribed my
13 name, this the 23rd day of November, 2015.

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Heidi C. Simmons
Heidi C. Simmons, Notary Public
State of New York
County of St. Lawrence
My commission expires: 08/27/17

Procurement (Services) and Other Contracts – Awards
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-A"
December 17, 2015

<u>Bus Unit/ Plant Site</u>	<u>Company Contract #</u>	<u>Start of Contract</u>	<u>Description of Contract</u>	<u>Closing Date</u>	<u>Award Basis¹ Contract Type²</u>	<u>Compensation Limit</u>	<u>Amount Expended To Date</u>	<u>Authorized Expenditures For Life Of Contract</u>
ECONOMIC DEVELOPMENT & ENERGY EFFICIENCY - CUSTOMER ENERGY SOLUTIONS	CEC STUYVESANT COVE, INC. dba SOLAR ONE New York, NY (4600003071)	11/23/15	Provide for the plan- ning and delivery of professional develop- ment workshops for teachers in connec- tion with the K-Solar Program statewide	11/22/18	Si/P	\$75,000 (Initial Award Amount) *Note: represents total for up to 3-year term		\$250,000*
ECONOMIC DEVELOPMENT & ENERGY EFFICIENCY - MARKETING ANALYSIS & ADMIN.	KEMA, INC. (a U.S. subsidiary of DNV GL) Burlington, MA (Q15-5937FS; PO# TBA)	01/01/16 (on or about)	Provide for load re- search and evaluation consulting services	12/31/20	B/P	*Note: represents total for up to 5-year term All costs associated with the annual Load Study will be recovered by the Authority.		\$3,000,000*
ENTERPRISE SHARED SERV - CORPORATE SUPPORT SERVICES	A & A MAINTENANCE ENTERPRISE, INC. Yonkers, NY (Q15-5965TB; PO# TBA)	01/01/16 on or about)	Provide for janitorial services for the Rappleyea Building (WPO), including tenant space and garage	12/31/20	B/S	*Note: represents total evaluated cost for up to 5-year term based on Estimated Usage Factor		\$6,837,660*
ENTERPRISE SHARED SERV - CORPORATE SUPPORT SERVICES	Q15-5916TB; 2 awards: 1. B.A.C. ELECTRICAL CONSTRUCTION CO., INC. White Plains, NY 2. HEALY ELECTRIC CONTRACTING, INC. White Plains, NY (PO#s TBA)	01/01/16 (on or about)	Provide for on-call general electrical services for the Rappleyea Building, garage and grounds	12/31/20	B/S	*Note: represents aggregate total evaluated cost for up to 5-year term based on Estimated Usage Factor		\$1,200,000*

♦ **M / WBE:** New York State-certified Minority / Women-owned Business Enterprise (indicated by the ♦ symbol after the Company Name)
1 Award Basis: B= Competitive Bid; S= Sole Source; Si= Single Source; C= Competitive Search
2 Contract Type: P= Personal Service; S= (Non-Personal) Service; C= Construction; E= Equipment; N= Non-Procurement; A= Architectural & Engineering Service; L= Legal Service

Procurement (Services) and Other Contracts – Awards
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-A"
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ENTERPRISE SHARED SERV - CORPORATE SUPPORT SERVICES	TURBOPROP EAST, INC. North Adams, MA (Q15-5963TB ; PO# TBA)	04/01/16 (on or about)	Provide for maintenance of Beechcraft King Air 350 series (or equivalent) air- craft	03/31/21	B/S			\$2,500,000*
						*Note: represents total for up to 5-year term		
OPERATIONS - POWER GEN - SENY PLANTS	Q15-5940JT; 2 awards: 1. BAY CRANE SERVICE, INC. Long Island City, NY 2. GENCON CON- STRUCTION CO. Shirley, NY (PO#s TBA)	01/01/16 (on or about)	Provide for crane rental with operator services for SENY Plants	12/31/20	B/E			\$5,000,000*
						*Note: represents aggregate total for up to 5-year term		
OPERATIONS - POWER GEN - SENY PLANTS	BRG MACHINERY CONSULTING, LLC North Garden, VA (Q15-5947JT ; PO# TBA)	01/01/16 (on or about)	Provide for consulting services to support ma- jor rotating machinery and Nuovo Pignone gas compressors for SENY Plants	12/31/20	B/P			\$5,000,000*
						*Note: represents total for up to 5-year term		
OPERATIONS - POWER GEN - 500 MW PLANT and other SENY PLANTS	IEM ENERGY CONSULTANTS, INC. Alexandria, MN (4600003069)	11/23/15	Provide for consulting services in connection with the new Long-Term Service Agreement (LTSA) for the 500 MW Plant and assistance for other SENY Plants, as needed	11/22/20	Si/P	\$100,000 (Initial Award Amount)		\$750,000*
						*Note" represents total for up to 5-year term		

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Procurement (Services) and Other Contracts – Awards
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-A"
December 17, 2015

<u>Bus Unit/ Plant Site</u>	<u>Company Contract #</u>	<u>Start of Contract</u>	<u>Description of Contract</u>	<u>Closing Date</u>	<u>Award Basis¹ Contract Type²</u>	<u>Compensation Limit</u>	<u>Amount Expended To Date</u>	<u>Authorized Expenditures For Life Of Contract</u>
OPERATIONS - POWER GEN - FLYNN	RUSSELL REID WASTE HAULING AND DISPOSAL SERVICE CO., INC. Keasbey, NJ (HQ) Lindenhurst, NY (Local Facility) (Q15-5961KS ; PO# TBA)	01/01/16	Provide for loading, transport and disposal of wastewater and non- toxic biomass sludge from the Flynn Plant	12/31/20	B/S			\$1,500,000*
						*Note: represents total for up to 5-year term		
OPERATIONS - POWER GEN - NIAGARA	SIMPLEXGRINNELL LLP (a subsidiary of Tyco International) Williamsville, NY (RFQ 6000160856 ; PO# TBA)	01/01/16 (on or about)	Provide for inspection and testing services for fire protection systems at the Niagara Project	12/31/19	B/S			\$70,000*
						*Note: represents total for up to 4-year term		
OPERATIONS SUPPORT SERVICES - EH&S	Q15-5823JR, -5868JR and -5825JR; 4 awards: 1. CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. Norwell, MA 2. CYCLE CHEM, INC. Elizabeth, NJ 3. TRADEBE TREATMENT AND RECYCLING NORTHEAST LLC Meriden, CT 4. VEOLIA ES TECHNICAL SOLUTIONS LLC Flanders, NJ (PO#s TBA)	01/01/16 (on or about)	Provide for waste disposal and recycling services, including transportation of DOT- regulated hazardous materials and hazard- ous / universal / Industrial waste	12/31/20	B/S			\$8,000,000*
						*Note: represents aggregate total for up to 5-year term		

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2 Contract Type: P= Personal Service; S= (Non-Personal) Service; C= Construction; E= Equipment; N= Non-Procurement; A= Architectural & Engineering Service; L= Legal Service

Procurement (Services) and Other Contracts – Awards
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-A"
December 17, 2015

<u>Bus Unit/ Plant Site</u>	<u>Company Contract #</u>	<u>Start of Contract</u>	<u>Description of Contract</u>	<u>Closing Date</u>	<u>Award Basis¹ Contract Type²</u>	<u>Compensation Limit</u>	<u>Amount Expended To Date</u>	<u>Authorized Expenditures For Life Of Contract</u>
OPERATIONS SUPPORT SERVICES - EH&S	VEOLIA ES TECHNICAL SOLUTIONS LLC West Bridgewater, MA (Q15-5826JR ; PO# TBA)	01/01/16 (on or about)	Provide for asset management and recycling of electronic equipment	12/31/20	B/S			\$300,000*
						*Note: represents total for up to 5-year term		
OPERATIONS SUPPORT SERVICES - IT	Q15-5932SR; 2 awards: 1. BLUECIELO ECM SOLUTIONS, INC. Exton, PA 2. HAGERMAN & COMPANY, INC. Mt. Zion, IL (PO#s TBA)	01/01/16 (on or about)	Provide for BlueCielo Meridian consulting services	12/31/18	B/P			\$2,000,000*
						*Note: represents aggregate total for up to 3-year term		
OPERATIONS SUPPORT SERVICES - IT	CENTER FOR INTERNET SECURITY, INC. East Greenbush, NY (Northeast HQ) (Q15-5905SR ; PO# TBA)	01/01/16 (on or about)	Provide for managed security services	12/31/20	B/S			\$5,200,000*
						*Note: represents total for up to 5-year term		
OPERATIONS SUPPORT SERVICES - IT	Q15-5958SR; 4 awards: 1. ERNST & YOUNG LLP New York, NY 2. INTERLOC SOLUTIONS, INC. Folsom, CA 3. STARBOARD CONSULTING, LLC Longwood, FL	01/01/16 (on or about)	Provide for MAXIMO consulting services	12/31/20	B/P			\$5,000,000*
						*Note: represents aggregate total for up to 5-year term		

[continued on next page]

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Procurement (Services) and Other Contracts – Awards
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-A"
December 17, 2015

<u>Bus Unit/ Plant Site</u>	<u>Company Contract #</u>	<u>Start of Contract</u>	<u>Description of Contract</u>	<u>Closing Date</u>	<u>Award Basis¹ Contract Type²</u>	<u>Compensation Limit</u>	<u>Amount Expended To Date</u>	<u>Authorized Expenditures For Life Of Contract</u>
	[continued from previous page]							
	4. TOTAL RESOURCE MANAGEMENT, INC. Alexandria, VA (PO#s TBA)							
OPERATIONS SUPPORT SERVICES - IT	Q15-5957WC; 9 awards:	01/01/16 (on or about)	Provide for cyber security consulting services	12/31/20	B/P			\$4,000,000*
	1. ALTRAN SOLUTIONS CORP. Bordentown, NJ							
	2. ERNST & YOUNG LLP New York, NY							
	3. GARNET RIVER LLC ♦ Saratoga Springs, NY							
	4. GOTHAM TECHNOLOGY GROUP LLC Montvale, NJ							
	5. GREYCASTLE SECURITY LLC Troy, NY							
	6. JANUS SOFTWARE, INC. ♦ dba JANUS ASSOCIATES Stamford, CT							
	7. KMQ ENTERPRISES, INC. ♦ dba TAILWIND ASSOCIATES Schenectady, NY							
	[continued on next page]							

♦ M / WBE: New York State-certified Minority / Women-owned Business Enterprise (indicated by the ♦ symbol after the Company Name)

1 Award Basis: B= Competitive Bid; S= Sole Source; Si= Single Source; C= Competitive Search

2 Contract Type: P= Personal Service; S= (Non-Personal) Service; C= Construction; E= Equipment; N= Non-Procurement; A= Architectural & Engineering Service; L= Legal Service

Procurement (Services) and Other Contracts – Awards
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-A"
December 17, 2015

<u>Bus Unit/ Plant Site</u>	<u>Company Contract #</u>	<u>Start of Contract</u>	<u>Description of Contract</u>	<u>Closing Date</u>	<u>Award Basis¹ Contract Type²</u>	<u>Compensation Limit</u>	<u>Amount Expended To Date</u>	<u>Authorized Expenditures For Life Of Contract</u>
	[continued from previous page]							
	8. PA CONSULTING GROUP, INC. New York, NY							
	9. PRESIDIO NETWORKED SOLUTIONS GROUP LLC Farmington, CT (PO#s TBA)							

♦ **M / WBE:** New York State-certified Minority / Women-owned Business Enterprise (indicated by the ♦ symbol after the Company Name)
 1 **Award Basis:** B= Competitive Bid; S= Sole Source; Si= Single Source; C= Competitive Search
 2 **Contract Type:** P= Personal Service; S= (Non-Personal) Service; C= Construction; E= Equipment; N= Non-Procurement; A= Architectural & Engineering Service; L= Legal Service

Procurement (Services) Contracts – Extensions and/or Additional Funding
(For Description of Contracts See "Discussion")

EXHIBIT "4c i-B"
December 17, 2015

<u>Plant Site/ Bus. Unit</u>	<u>Company Contract #</u>	<u>Start of Contract</u>	<u>Description of Contract</u>	<u>Closing Date</u>	<u>Award Basis¹ Contract Type²</u>	<u>Compensation Limit</u>	<u>Amount Expended To Date</u>	<u>Authorized Expenditures For Life Of Contract</u>
OPERATIONS SUPPORT SERVICES - IT	TIME WARNER CABLE INC. Latham, NY 4600002790	07/01/14	Provide for fiber optic cabling and recurring Ethernet service for the Authority's Operations Network	06/30/24	B/S	\$3,780,000 ("Target Value")	\$957,933 ("Released Amount")	\$6,500,000*
						* Note: represents original award amount of \$3.78 million + CURRENT REQUEST for \$2.72 million		
OPERATIONS SUPPORT SERVICES - PROJ MGMT + TRANSMISSION + STL	TOWER MAINTENANCE CORP. ♦ Sea Cliff, NY 4500251164	10/31/14	Provide for the surface preparation, priming and field coating of 110 Authority steel transmission towers / structures in the St. Lawrence region	06/30/16	B/C	\$2,064,639	\$2,059,450	\$2,064,639*
						*Note: represents original award amount of \$2,059,450 + an additional \$5,189 authorized per EAPs; NO additional funding requested		

♦ **M / WBE:** New York State-certified Minority / Women-owned Business Enterprise (indicated by the ♦ symbol after the Company Name)
1 **Award Basis:** B= Competitive Bid; C= Competitive Search; S= Sole Source; Si = Single Source
2 **Contract Type:** P= Personal Service; S= (Non-Personal) Service; C= Construction; E= Equipment; N= Non-Procurement; L= Legal Service


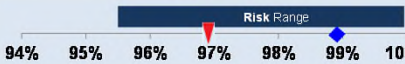


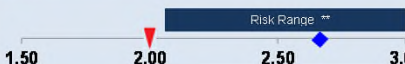








President & Chief Executive Officer Report

Gil Quiniones

December 17, 2015

NYPA Overall Performance November 2015

Goal	Measure	Year-To-Date 2015			Year 2016 Risk Range
		Status	Target	Actual	
Maintain Infrastructure	Generation Market Readiness (%)		99.40	99.08	
	Transmission System Reliability (%)		96.01	96.73	
Financial Management	Debt Coverage (Ratio)		2.70	2.66	
	O&M Budget Performance (\$ Millions)		428.1	391.2	
Energy Services	MMBTU's Saved		396.4	484.3	
	Energy Efficiency Investment in State Facilities (\$ Millions)		44.8	45.3	
Workforce Management	Retention (# of Touchpoints)		695	1288*	<p>Risk Range</p> <p>◆ Year-to-Date Actual</p> <p>▼ Risk Threshold</p> <p>Projected risk ranges to be reported quarterly</p> <p>Corporate Performance</p> <p>Status</p> <p>▲ Meeting or Exceeding Target</p> <p>■ Below Target</p> <p>● Significantly Below Target</p>
Safety Leadership	DART Rate (Index)		0.78	0.86	
Environmental Responsibility	Environmental Incidents (Units)		30	25	

*Quarterly measure Q3.

**Debt Coverage KRI Range from Q2; measure under revision.



CRO Report

Soubhagya Parija
SVP & Chief Risk Officer

December 17, 2015

NYPA Top Risks

- Cyber
- Regulatory
- Workforce – Talent/Skills
- Critical Assets
- Commodity Price Volatility
- Disruptive Technologies
- Shifting Customer Preferences
- Low Hydro Volume
- Sustained Low Energy Prices
- Catastrophic Events – Flood/Earthquake

As presented in the September Trustee Meeting. No prioritization



**NY Power
Authority**

Risk Report

- No change observed in the top risks
- Detailed annual risk assessment to begin in Q1 2016
- Current Projects
 - Commodity risk management solution
 - Developing portfolio view of risks
 - Risk Appetite – Applicability
 - Cyber Insurance for 2016
 - Business Continuity and Emergency Management



Board of Trustees Meeting

Chief Operating Officer Report

Presented By:

Joseph F. Kessler PE

SVP Power Generation

February 10, 2016

COO Report Overview

- Performance
- A look ahead to 2016

Performance Measures

	November 2015		YTD	
NYPA OVERALL	Actual	Target	Actual	Target
Generation Market Readiness (%)	99.97	99.40	99.08	99.40
Transmission Reliability (%)	98.42	99.43	96.73	96.01
Environmental Incidents	3	3	25	30
DART Rate	0.00	0.78	0.86	0.78

Look Ahead - 2016

NERC

CIP V5

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION



NY Power
Authority

Look Ahead - 2016

- ISO 55000
- SAMP



- Safety
- Security
- Workforce Development



**NY Power
Authority**

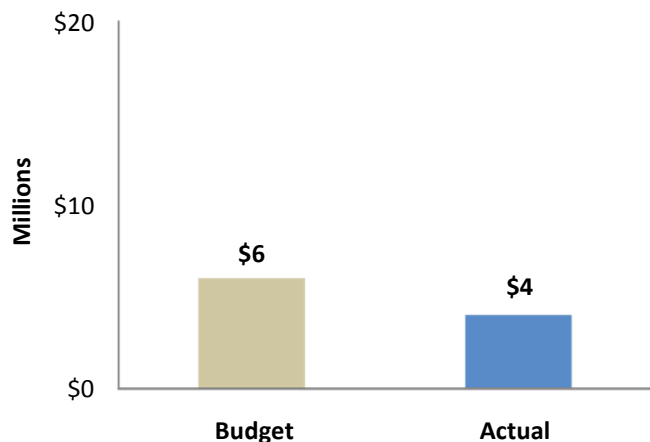
Chief Financial Officer Report

December 17, 2015

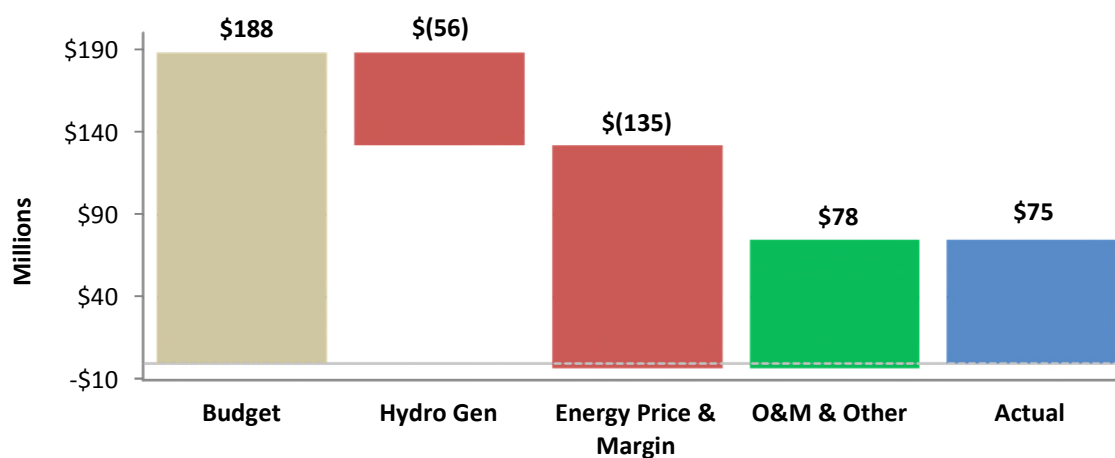
Net Income

- During the month of November, the Authority had net income of \$4 million which was \$1.8 million lower than the budgeted \$5.8 million. These results were due primarily to a lower net margin on sales (\$10.7 million) and a mark-to-market loss on the Authority's investment portfolio (\$5.5 million, higher than anticipated market interest rates), substantially offset by lower operating expenses (\$14.5 million). The lower net margin on sales was primarily attributable to significantly lower prices on market sales of hydro energy into the ISO market.
- Net income for the year to date was \$75.2 million, which was \$113.1 million lower than budgeted due to lower hydro production (\$56 million), and lower market energy prices (\$135 million), partially offset by lower O&M and other expenses (\$78 million). Lower production resulted from low precipitation and a less than normal winter ice thaw early in the year. Lower O&M and other expenses reflect underspending in programs including Five City Master Plan, Western NY Workforce Development and Customer Energy Solutions.

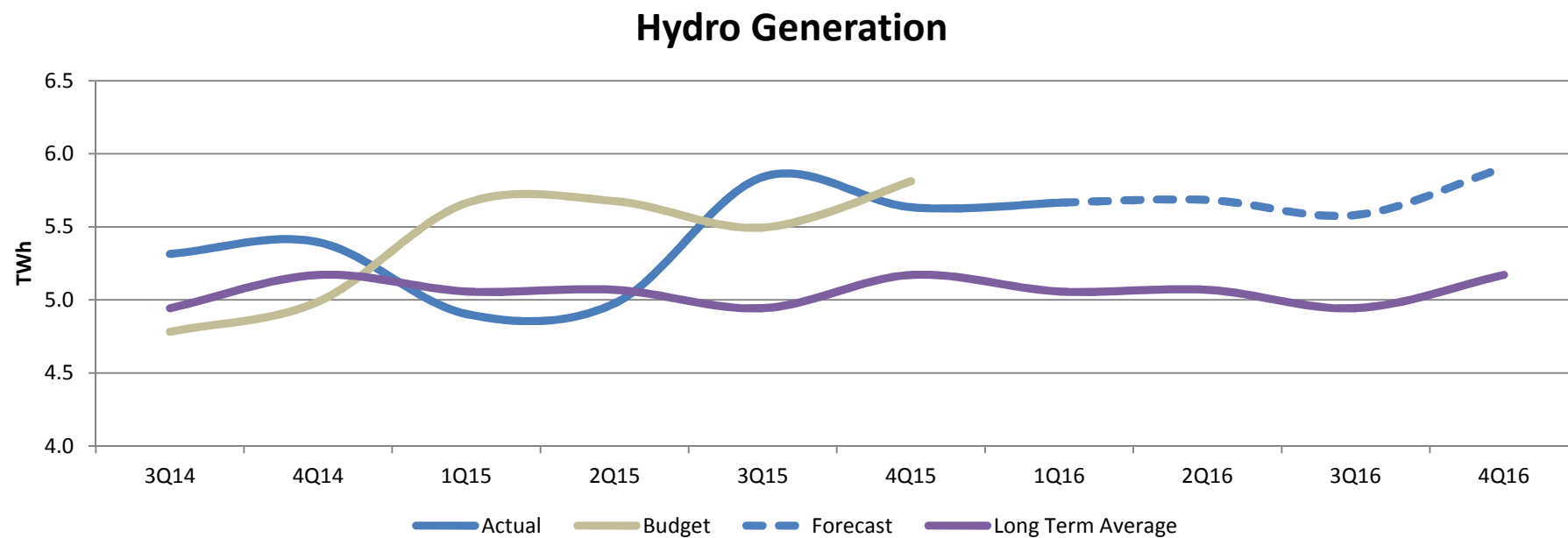
November 2015



Year-to-date – November 2015

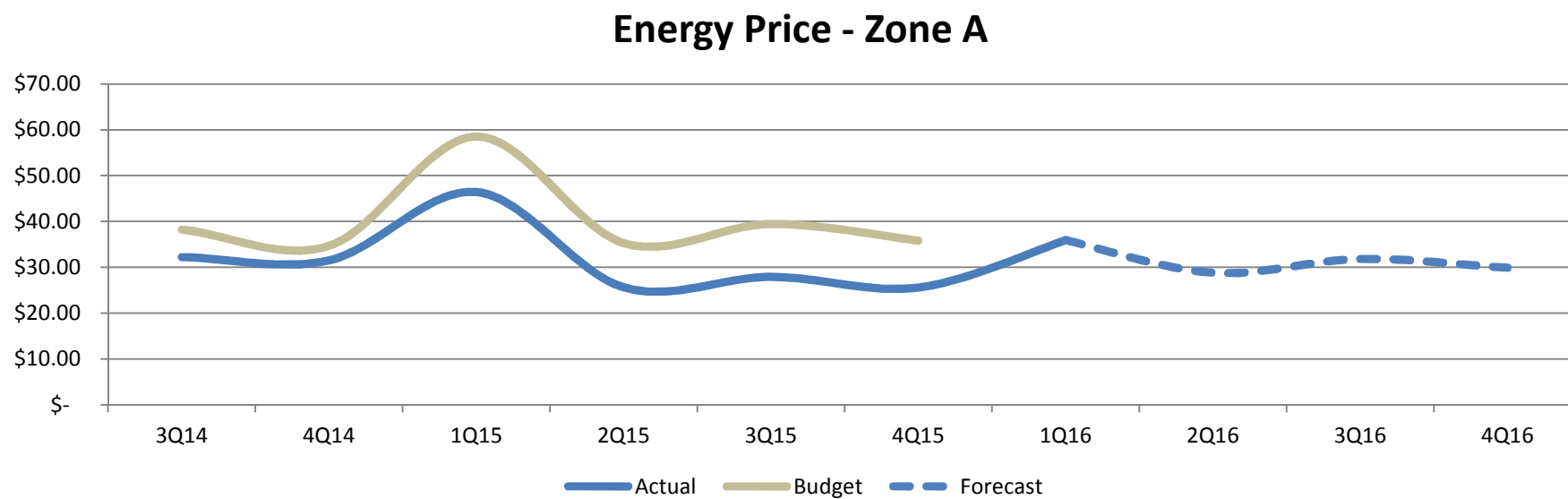


Hydro Generation



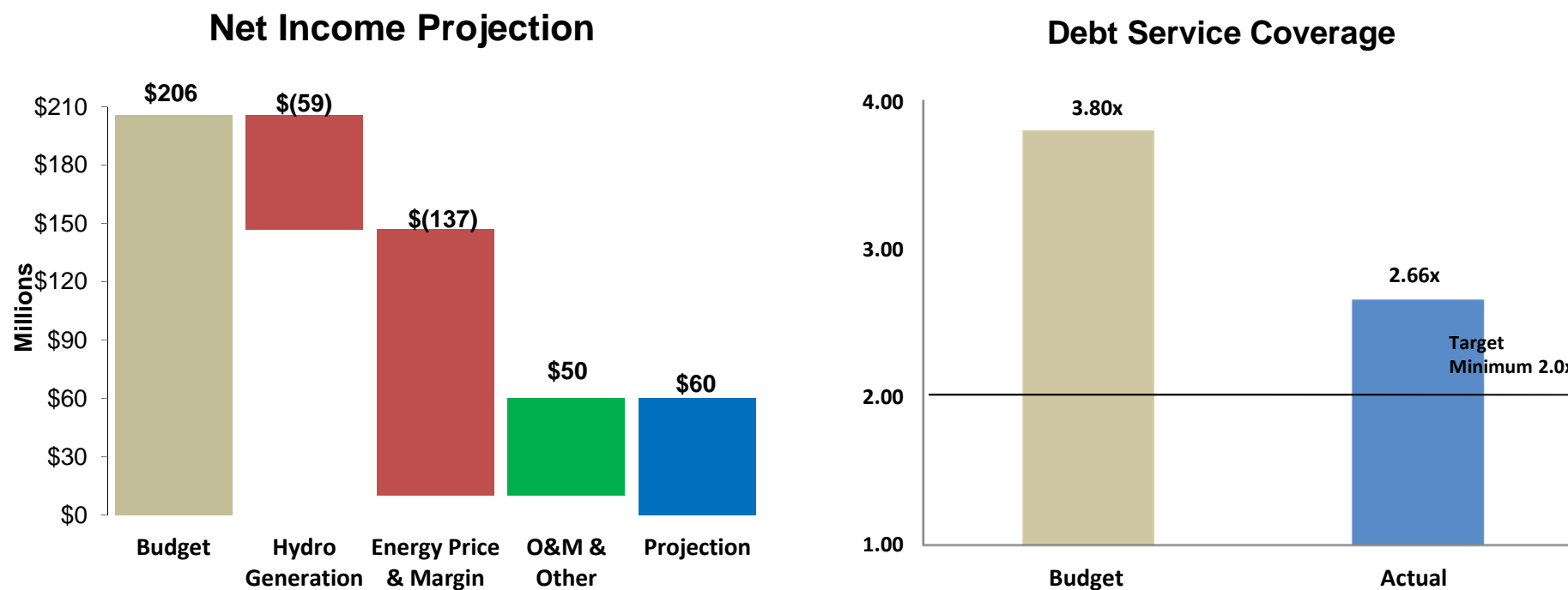
Increased hydro volume expected towards the end of 2015 and for 2016. The December update includes a .12 Twh decrease in hydro production related to 2015 (compared to last month's projection).

Energy Price Forecast



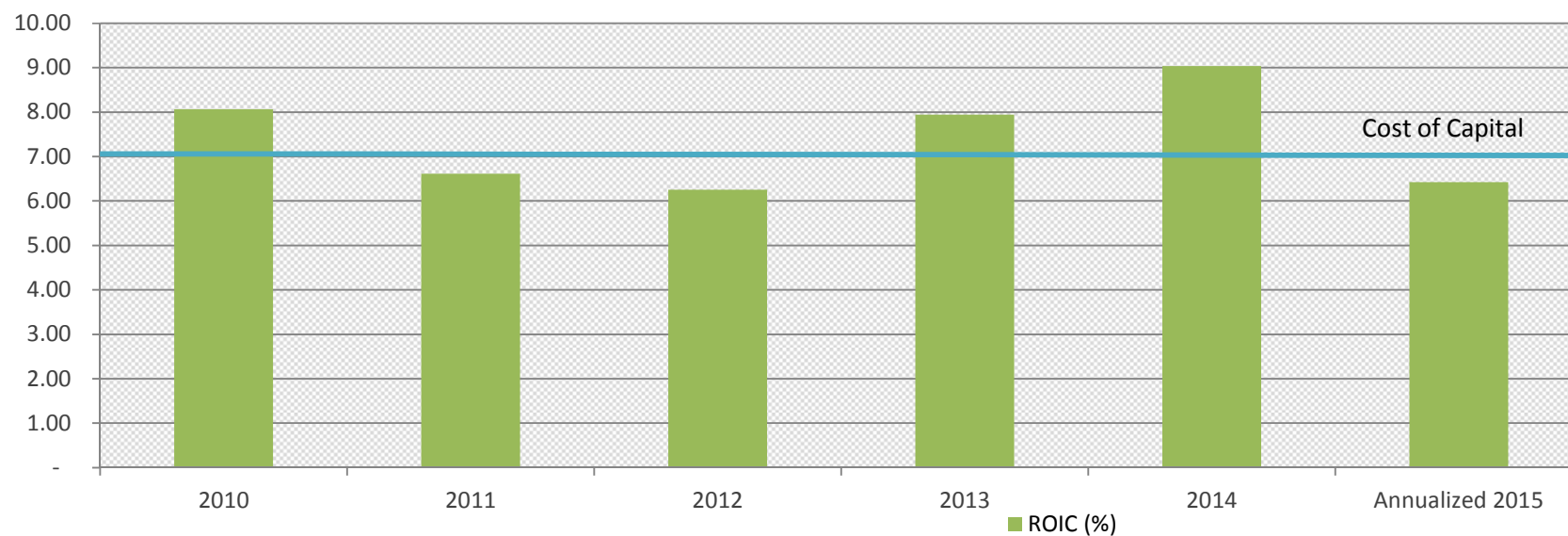
Energy Zone A (Western NY) prices continue to be significantly below budget. Zone A price for November was 31% below the budget. Current projection is 26% below budget for the year.

Year-End Net Income Projection & Debt Service Coverage

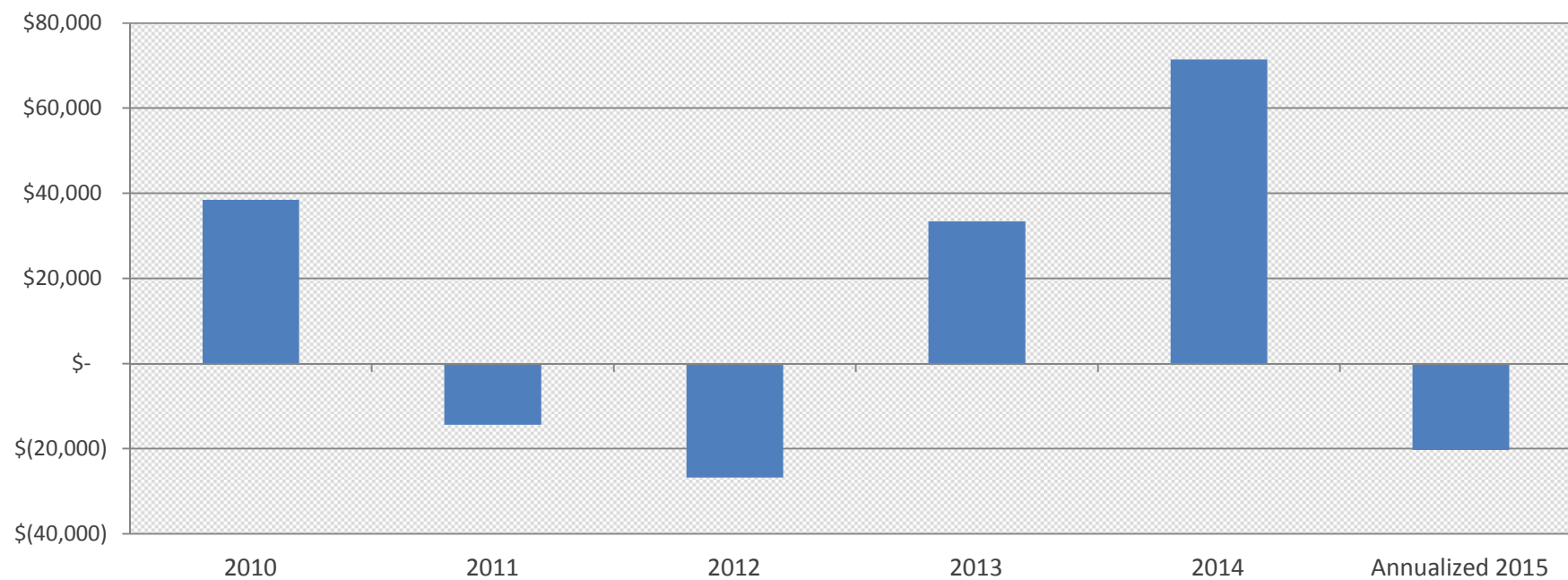


Net income for the year is projected to be \$55-\$70 million with the budget variance primarily attributable to lower hydro production and lower market energy prices. Final results will vary based on the level of spending on O&M and other programs for the remainder of the year.

Return on Invested Capital (%): 2010-2015



Economic Value Added: 2010-2015



2016 Operating Budget

(\$ Millions)

	Operating Budget 2016
<u>Operating Revenues:</u>	
Customer Revenues.....	\$1,860.2
NYISO Market Revenues.....	<u>839.5</u>
<i>Total Operating Revenues</i>	2,699.7
<u>Operating Expenses:</u>	
Purchased Power.....	706.1
Fuel.....	221.8
Wheeling Expenses.....	629.1
O&M Expenses.....	458.9
Other Expenses.....	186.4
Depreciation and Amortization.....	<u>229.4</u>
<i>Total Operating Expenses</i>	2,431.7
NET OPERATING REVENUES	268.1
<u>Other Income:</u>	
Investment Income.....	29.0
Other Income.....	<u>2.5</u>
<i>Total Other Income</i>	31.5
<u>Non-Operating Expenses:</u>	
Interest & Other Expenses.....	158.7
Contributions to State.....	<u>90.0</u>
<i>Total Non-Operating Expenses</i>	248.7
NET INCOME	<u>\$50.8</u>

NYPA's 2015 vs. 2016 Budget Variance

(\$ millions)

	Current Forecast <u>2015</u>	Budget <u>2016</u>	2015 Forecast vs. 2016 Budget <u>Variance</u>
<u>Operating Revenues:</u>			
Customer Revenues	\$1,846.2	\$1,860.2	\$14.1
NYISO Market Revenues	\$849.1	\$839.5	(\$9.6)
Total Operating Revenues	\$2,695.3	\$2,699.7	\$4.4
<u>Operating Expenses:</u>			
Purchased Power	\$718.3	\$706.1	\$12.3
Fuel	\$256.6	\$221.8	\$34.9
Wheeling Expenses	\$589.0	\$629.1	(\$40.1)
O&M Expenses	\$454.1	\$458.9	(\$4.8)
Other Expenses	\$162.5	\$186.4	(\$24.0)
Depreciation and Amortization	\$237.4	\$229.4	\$8.0
Total Operating Expenses	\$2,417.9	\$2,431.7	(\$13.8)
NET OPERATING REVENUES	\$277.5	\$268.1	(\$9.4)
<u>Other Income:</u>			
Investment Income	\$27.9	\$29.0	\$1.1
Other Income	\$3.7	\$2.5	(\$1.2)
Total Other Income	\$31.6	\$31.5	(\$0.1)
<u>Non-Operating Expenses</u>			
Interest & Other Expenses	\$165.6	\$158.7	\$6.8
Contributions to State	\$90.0	\$90.0	\$0.0
Total Non-Operating Expense	\$255.6	\$248.7	\$6.8
NET INCOME	\$53.5	\$50.8	(\$2.7)

2016 Net Income by Project

<i>New York Power Authority</i>										<i>2016</i>		<i>Dollars in thousands</i>	
	<i>Niagara</i>	<i>St. Lawrence</i>	<i>Blenheim Gilboa</i>	<i>SENY</i>	<i>Small Hydro</i>	<i>SCPP</i>	<i>Mkt Sup Power</i>	<i>Flynn</i>	<i>Trans- mission</i>	<i>Misc.</i>	<i>Year End</i>		
Operating Revenues													
Customer Revenue	296,070	93,088	4,878	1,351,428			147,600		50,507	(83,338)	1,860,233		
ISO Revenues	180,132	95,258	53,222	275,562	5,864	73,569	2,137	60,226	129,792	(66,479)	809,282		
Ancillary Services	14,717	1,847	5,006	7,706	20	923					30,219		
Operating Revenues	490,918	190,193	63,106	1,634,697	5,884	74,491	149,737	60,226	180,299	(149,817)	2,699,734		
Operating Expenses													
Purchase Power	(32,882)	(1,638)	(10,973)	(459,468)		(1,490)	(117,310)		(80,140)	155,578	(548,323)		
Ancillary Services	(23,182)	(6,485)	(94)	(31,538)	(44)	(128)	(6,543)				(68,014)		
Transmission Congestion	(30,324)	(6,246)		(34,830)			(18,331)				(89,731)		
Fuel				(168,725)		(18,053)		(34,986)			(221,764)		
Wheeling	(8,804)	(1,243)		(615,744)			(2,931)	(360)			(629,082)		
O&M	(99,654)	(61,329)	(47,499)	(89,908)	(12,064)	(21,037)	(4,051)	(13,792)	(106,209)	(20,496)	(476,039)		
Other	(23,482)	(23,684)	(2,972)	(10,698)	(917)	(350)	(46,320)	(957)	(25,234)	(51,835)	(186,449)		
Depreciation & Amortizati	(38,011)	(22,685)	(9,493)	(95,577)	(2,976)	(10,946)	(165)	(5,697)	(43,855)		(229,404)		
Allocation to Capital	4,433	2,525	1,834	2,263	582	222	182	607	4,481		17,129		
Operating Expenses	(251,907)	(120,784)	(69,196)	(1,504,225)	(15,420)	(51,782)	(195,468)	(55,184)	(250,957)	83,247	(2,431,676)		
Nonoperating Revenues													
Investment Income										28,968	28,968		
Mark-to-Mark Adjustment													
Other Income										2,500	2,500		
Nonoperating Revenues										31,468	31,468		
Nonoperating Expenses													
Contributions to State										(90,000)	(90,000)		
Interest & Other Expense	(24,148)	(13,999)	2,749	(104,745)	(241)				(4,489)	(13,847)	(158,720)		
Nonoperating Expenses	(24,148)	(13,999)	2,749	(104,745)	(241)				(4,489)	(103,847)	(248,720)		
Net Income	214,863	55,411	(3,341)	25,727	(9,777)	22,709	(45,732)	5,042	(75,147)	(138,949)	50,807		

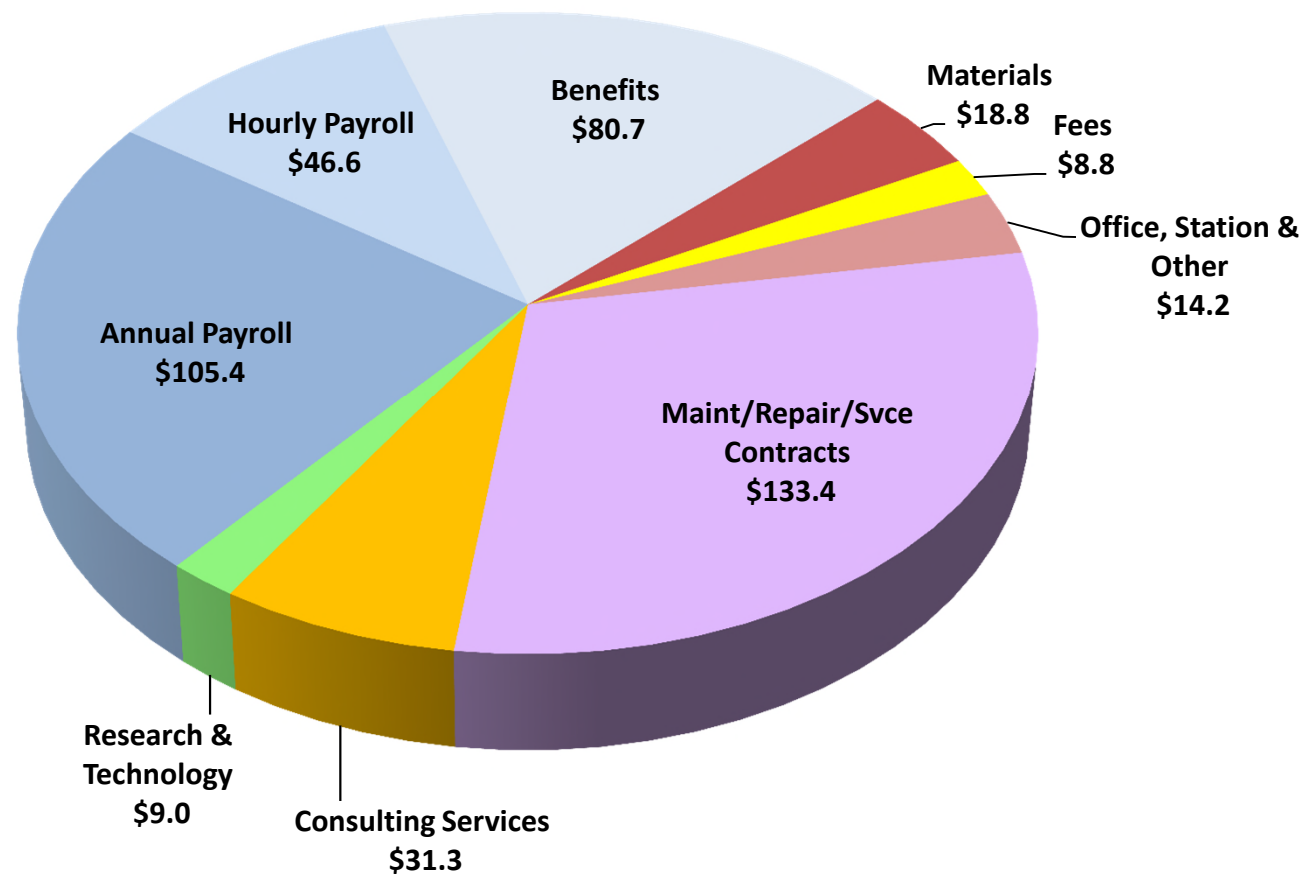
2016 O & M Budget by Organization

(\$,000)

	<u>2016 Budget</u>		<u>2016 Budget</u>
EXECUTIVE OFFICE		COMMERCIAL OPERATIONS	
Executive	\$ 3,063.6	SVP Commercial Operations	\$ 337.0
Law	9,045.5	Project Development & Licensing	5,385.0
Internal Audit	4,329.3	Legislative & Regulatory Affairs	1,242.0
Public & Regulatory Affairs	8,122.9	Energy Resource Management	<u>1,517.7</u>
Risk Management	<u>3,568.2</u>	Office Total	\$ 8,481.6
Office Total	\$ 28,129.4		
BUSINESS SERVICES		OPERATIONS	
EVP & CFO Business Services	\$ 591.4	Operations Headquarters	\$ 60,614.7
Budgets & Business Controls	2,186.4	Blenheim-Gilboa	30,600.0
Controller	5,798.5	500 MW	34,572.0
Finance	825.0	Flynn	8,196.9
Financial Planning	1,336.6	SENY	5,787.6
Treasury	1,311.3	SCPP	18,989.8
Procurement	4,671.8	Niagara	58,815.5
Strategic Management	<u>3,616.9</u>	St. Lawrence	38,068.1
Office Total	\$ 20,337.8	Small Hydros	6,706.7
		Transmission Lines	64,926.7
ENTERPRISE SHARED SERVICES		Astoria Energy II O&M	<u>907.1</u>
SVP Enterprise Shared Services	\$ 990.3	Office Total	\$ 328,185.1
VP Enterprise Shared Services	371.7		
Human Resources	12,429.7	Recharge New York	\$ 2,376.2
Knowledge Management	1,894.5	Research & Development	\$ 9,025.2
Corporate Support Services	10,357.4		
Fleet Management	1,482.1	Total before Lease/Invest.	\$ 427,751.1
Real Estate	727.0		
Chief Diversity Officer	<u>223.6</u>	Customer Energy Solutions	\$ 9,478.1
Office Total	\$ 28,476.2	NY Energy Manager	4,013.5
		Integrated Grid	1,504.6
ENERGY MARKETING & BUSINESS DEVELOPMENT		Other	<u>5,500.0</u>
Energy Efficiency	\$ 1,781.0	Total Non-Chargeable	\$ 20,496.0
Economic Development	543.6		
Market Analysis & Administration	<u>415.0</u>	Total Excluding Leases	\$ 448,247.2
Office Total	\$ 2,739.6	Astoria Energy II Lease	\$ 27,792.0
		Grand Total	\$ 476,039.2

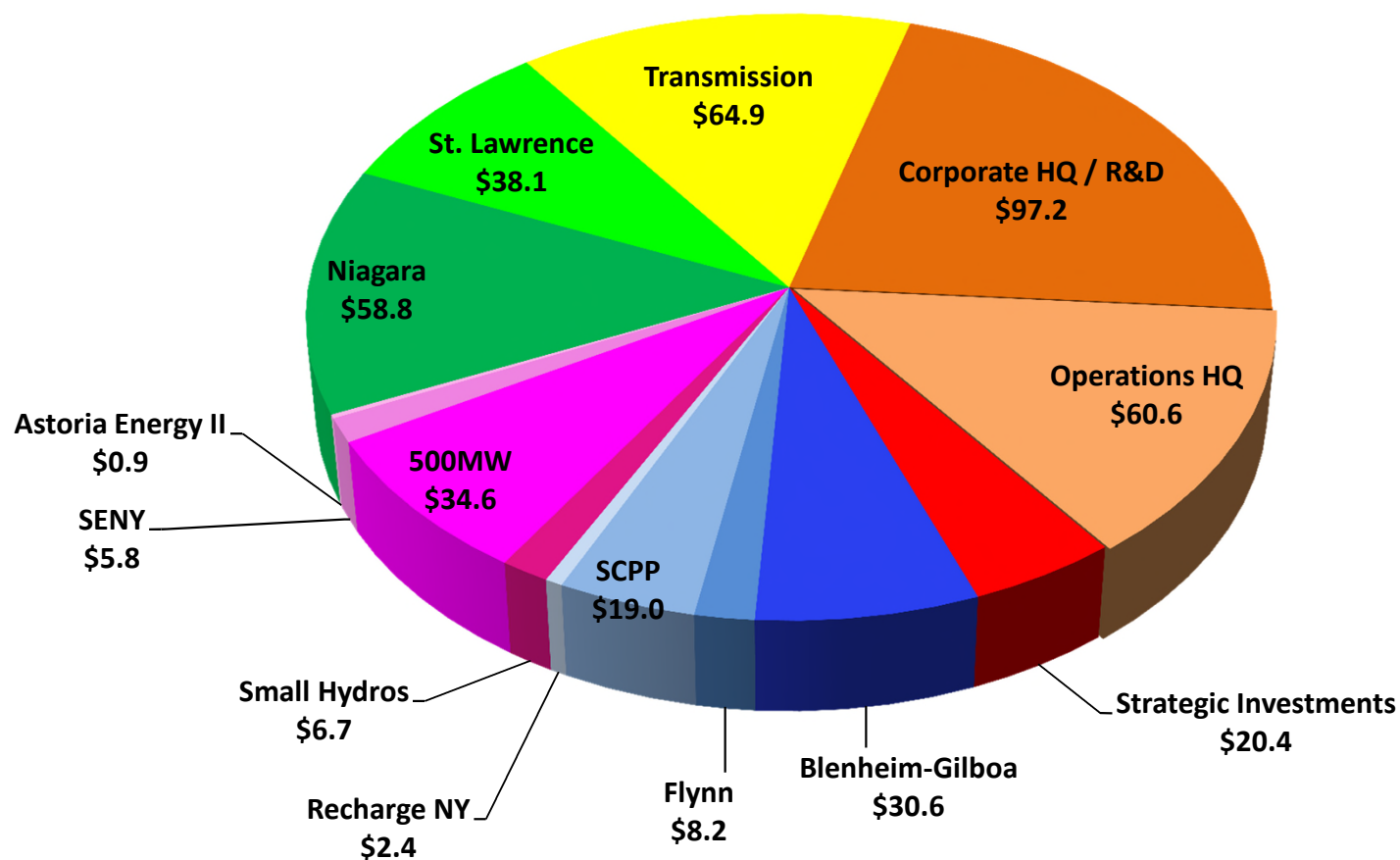
O & M: 2016 Budget by Cost Element (\$ millions)

\$448.2M
(excludes \$27.8 M AEI Lease)



O & M: 2016 Budget by Facility (\$ millions)

\$448.2M
(excludes \$27.8 M AEII Lease)



* Astoria does not reflect annual Lease payments

O & M: 2016 Headcount

2016 Request

Headquarters

* Executive Offices	162
Commercial Operations	60
Business Services	170
Human Resources & Enterprise Shared Services	102
Economic Development & Energy Efficiency	<u>189</u>

Headquarters Total **683**

Operations

Operations HQ	383
Transmission/Clark	127
Blenheim-Gilboa	110
500MW	64
R.M. Flynn	22
Niagara	247
St. Lawrence	<u>186</u>

Operations Total **1,139**

NYPA Total **1,822**

Reflects 17 new position requests, funded and embedded in departments

* Includes 25 funded and 25 unfunded new position requests

2016 Capital Request (\$ Thousands)

OPERATIONS

TRANSMISSION	\$ 91,341
NIAGARA*	50,515
ST. LAWRENCE*	25,524
BLLENHEIM- GILBOA*	8,178
500 MW	5,481
SCPP	8,347
FLYNN	476
SMALL HYDRO PLANTS	4,045

SUB-TOTAL OPERATIONS	193,905
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OPERATIONS HEADQUARTERS

INFORMATION TECHNOLOGY	52,011
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TOTAL OPERATIONS	245,916
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HEADQUARTERS WPO	49,631
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TOTAL CAPITAL	\$ 295,547
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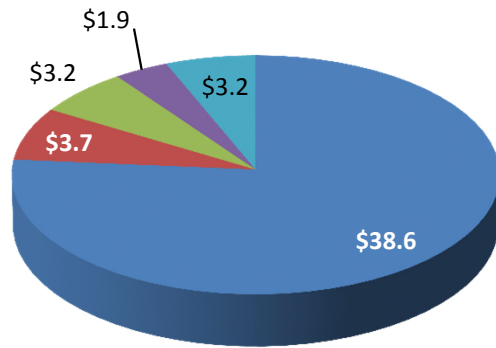
* Includes Relicensing and Compliance / Implementation Expense

Capital Plan: 2016 Major Initiatives

Niagara 2016

(\$ millions)

Total: \$50.5 million

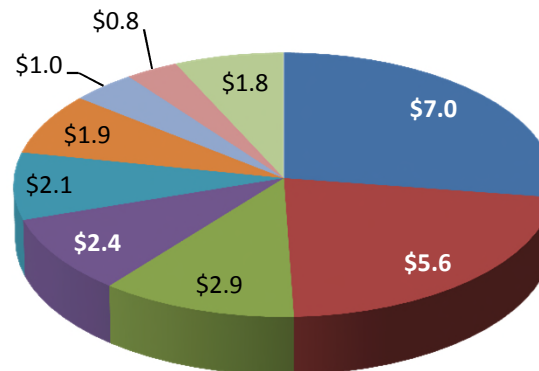


- Lewiston Pump Generating Plant (LPGP) LEM
- Niagara Visitors Center Upgrade
- NIA - RM Spare 115/230kV Dual Voltage GSU
- Niagara Relicensing and Implementation
- All Other Niagara Projects

St. Lawrence 2016

(\$ millions)

Total: \$25.5 million

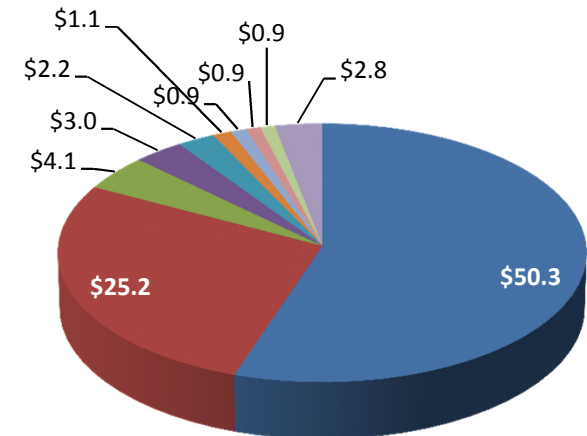


- STL Generator Step-Up (GSU) Transformer Replacement
- STL New RMSP Nature Center
- STL Safety Systems
- STL Station Service Upgrade
- St. Lawrence Recreational Facilities
- Saint Lawrence Relicensing and Implementation
- STL - New Security and Warehouse Facility
- Long Sault Dam Motor Control Centers Replacement (JW)
- All Other St. Lawrence Projects

Transmission 2016

(\$ millions)

Total: \$91.3 million



- Transmission T-LEM Projects
- MARCY SOUTH SERIES COMPENSATION
- SGT: SMART INSTRUMENTATION
- MA & MWP STRUCTURE REPLACEMENTS PHASE II
- AM: ASSET MANAGEMENT HEALTH CENTER
- 765KV (MASSENA/CEC) MOD REPLACEMENT
- ISO METER UPGRADE-BG
- SGT: NEXT-GEN ENERGY MANAGEMENT SYSTEM (I
- ENERGY CONTROL CENTER REDUNDANCY
- All Other Transmission Projects

ENERGY SERVICES

2016 BUDGET (\$ Thousands)

2016 BUDGET

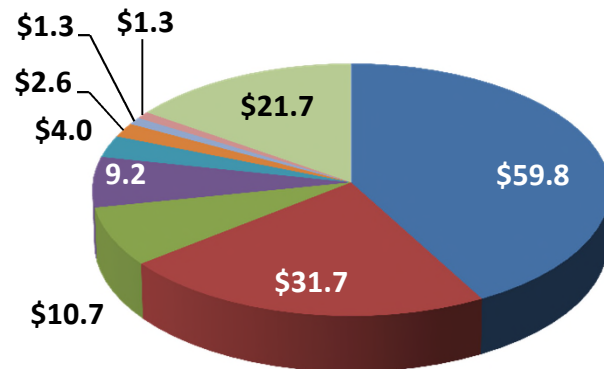
SENY GOVERNMENTAL SERVICES PROGRAM	\$ 142,342
OTHER NYPA FUNDED PROGRAMS	40,416
POCR FUNDED PROGRAMS	<u>296</u>
TOTAL \$	183,054

2016 Energy Services Programs

There are currently two major energy services programs authorized by the Trustees. The Long Term Agreement Program (LTAP) is associated with energy services work for our SENY customers and the Other Energy Services Program mostly supports energy service projects for NYS and other government entities.

Long Term Agreement Program

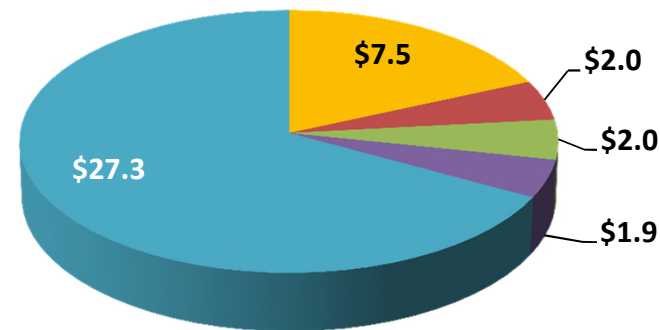
(\$ millions)
Total \$142.3 Million



- New York State DEP Projects
- New York City DOC Projects
- CUNY Projects
- MTA-Electric Regenerative Braking
- New York City DOE Projects
- Port Authority - Advanced Metering
- PS-21Q (Edward Hart School)
- IS-142X (John Philip Sousa Middle School)
- All Other Projects

Other Energy Services Programs

(\$ millions)
Total \$40.7 Million



- SUNY Projects
- Office of General Services (OGS)
- Monroe County Projects
- Nassau County Projects
- All Other Projects

New York Power Authority

2016-2019 Approved Budget and Financial Plan

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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 ("NYPA" 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 goals are to have the resources necessary to achieve its mission, to maximize opportunities to serve its customers better and to preserve its strong credit rating.

The Authority generates, transmits and sells electric power and energy; principally at wholesale. The Authority's primary customers are municipal and rural electric cooperatives located throughout New York State, investor-owned utilities, high load factor industries, statewide commercial/industrial and not-for-profit businesses, various public corporations located in Southeastern New York within the metropolitan area of New York City ("SENY governmental customers") and certain neighboring states.

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 combined cycle electric generating plant located in Queens, New York (the "500-MW plant") and the Richard M. Flynn combined cycle plant located on Long Island ("Flynn").

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 and St. Lawrence-FDR projects; (b) long-term supplemental electricity supply agreements with the SENY governmental customers; (c) construction and operation of the 500-MW plant 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"), which entered into service on July 1, 2011; (e) contracting a firm transmission capacity purchase agreement with Hudson Transmission Partners, LLC ("HTP") to build a 660 MW, seven mile, underground and underwater transmission line connecting into the PJM ISO, which became operational in June 2013; (f) a significant reduction of outstanding debt; and (g) implementation of an enterprise-wide and energy/fuel risk management program. As a component of NYPA's strategic plan, efforts to modernize NYPA's generation and transmission infrastructure are being developed to increase flexibility and resiliency, and to serve customers' needs in an increasingly dynamic energy marketplace.

The Authority, through its Customer Energy Solutions ("CES") group, 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 CES group also has responsibility for implementation of the Governor's Executive Order No. 88, known as "BuildSmart NY" (to improve energy efficiency at State owned and managed buildings), the Five Cities Energy Efficiency Implementation Plans (for the cities of Albany, Buffalo, Rochester, Syracuse and Yonkers to reduce overall energy costs and consumption, strength the reliability of energy infrastructure, create jobs in local clean energy industries and contribute to a cleaner environment), and the K-Solar program (to reduce schools' energy costs through the use of solar power). From January 2013 through October 2015, NYPA has provided approximately \$187.5 million in financing for energy efficiency projects at State agencies and authorities covered by Executive Order 88.

To achieve its goal of promoting energy efficiency, NYPA implements energy services programs aimed for the benefit of its SENY governmental 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 the reduction of the demand for electricity and the efficient use of energy. These programs provide funding for, among other things, high efficiency lighting technology conversions; high efficiency heating, ventilating and air conditioning systems and controls; boiler conversions; replacement of inefficient refrigerators with energy efficient units in public housing projects; distributed generation technologies and clean energy technologies; and installation of non-electric energy saving measures. The Authority has authorized, as of September 29, 2015, the expenditure of an aggregate of \$3.9 billion on these programs.

(a) NYPA's Relationship with the 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 that does not receive State funds, tax revenues or credits. 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

As an electric utility, 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 changing water flows have a direct effect on hydroelectric generation levels. This 2016-2019 Approved Budget and Financial Plan ("Four-Year Plan") relies on data and projections developed through the following timeframe:

- During July – August 2015, develop preliminary forecasts of electric prices (both energy and capacity) 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 – September 2015, develop preliminary operations & maintenance and capital expense targets.
- September - October 2015 – post 2016-2019 Proposed Budget and Financial Plan for public inspection at five convenient locations and on NYPA's internet website.
- During October – November 2015, update and finalize all forecasts and cost estimates.
- During November 2015, integrate above data to produce final 2016-2019 Budget and Financial Plan.
- Seek authorization of NYPA's Trustees to approve the 2016-2019 Budget and Financial Plan at their meeting currently scheduled for December 17, 2015 and submit the information to the State Comptroller's Office; and make the document available for public inspection at five convenient locations and on NYPA's internet website.

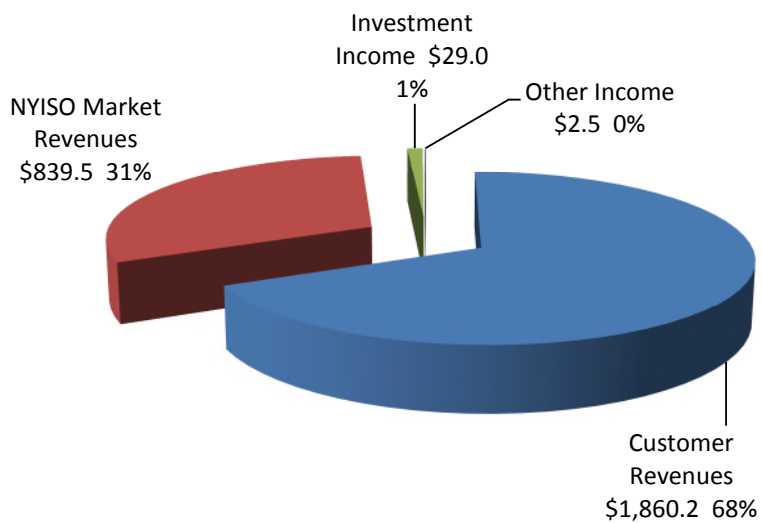
NYPA's Four-Year Projected Income Statements

(in Millions)

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
<u>Operating Income:</u>				
Customer Revenues	\$1,860.2	\$1,937.4	\$1,980.9	\$2,007.8
NYISO Market Revenues	\$839.5	\$868.4	\$952.5	\$940.5
Total Operating Income	\$2,699.7	\$2,805.8	\$2,933.4	\$2,948.3
<u>Operating Expenses:</u>				
Purchased Power	\$706.1	\$750.5	\$871.8	\$891.2
Fuel	\$221.8	\$226.7	\$265.7	\$270.9
Wheeling Expenses	\$629.1	\$643.9	\$643.8	\$643.5
O&M Expenses	\$476.0	\$516.6	\$525.9	\$538.8
Other Expenses	\$186.4	\$184.7	\$168.8	\$156.6
Depreciation and Amortization	\$229.4	\$220.6	\$222.6	\$224.5
Allocation to Capital	<u>(\$17.1)</u>	<u>(\$23.9)</u>	<u>(\$24.8)</u>	<u>(\$26.1)</u>
Total Operating Expenses	\$2,431.7	\$2,519.1	\$2,673.7	\$2,699.5
NET OPERATING INCOME	\$268.1	\$286.8	\$259.6	\$248.9
<u>Other Income:</u>				
Investment Income	\$29.0	\$36.4	\$37.5	\$49.5
Other Income	<u>\$2.5</u>	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>
Total Other Income	\$31.5	\$36.4	\$37.5	\$49.5
<u>Non-Operating Expenses:</u>				
Interest Expense	\$158.7	\$151.3	\$152.6	\$145.8
Contributions to State	<u>\$90.0</u>	<u>\$90.0</u>	<u>\$90.0</u>	<u>\$90.0</u>
Total Non-Operating Expenses	\$248.7	\$241.3	\$242.6	\$235.8
NET INCOME	\$50.8	\$81.9	\$54.5	\$62.6

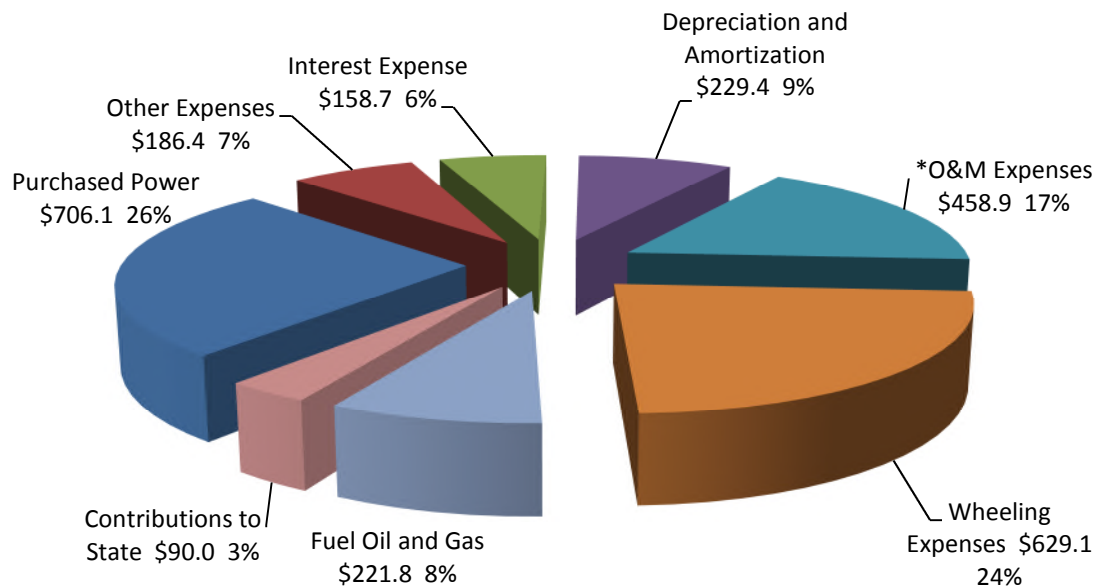
2016 Budget – Sources

(in Millions)



2016 Budget – Uses

(in Millions)



* Reflects NYPA's Base O&M Expenses plus Administrative Expenses less the Allocation to Capital.

NYPA's Statement of Cash Flows
2801 Report Format
(in Millions)

Revenue Receipts :

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Sale of Power, Use of Transmission Lines						
Wheeling Charges and other receipts	\$3,142.6	\$2,640.6	\$2,648.3	\$2,757.5	\$2,888.4	\$2,907.8
Earnings on Investments and Time Deposits	<u>\$20.9</u>	<u>\$25.0</u>	<u>\$21.5</u>	<u>\$31.0</u>	<u>\$37.0</u>	<u>\$49.5</u>
Total Revenues	\$3,163.5	\$2,665.6	\$2,669.8	\$2,788.5	\$2,925.4	\$2,957.3

Expenses:

Operation and Maintenance, including Transmission of Electricity by others, Purchased Power and Fuel Purchases						
	(\$2,725.9)	(\$2,372.5)	(\$2,386.4)	(\$2,474.6)	(\$2,633.6)	(\$2,661.5)

Debt Service :

Interest on Bonds and Notes	(\$60.9)	(\$59.4)	(\$60.5)	(\$58.3)	(\$70.8)	(\$71.0)
Bonds and Notes Retired	<u>(\$61.0)</u>	<u>(\$91.0)</u>	<u>(\$101.3)</u>	<u>(\$59.8)</u>	<u>(\$64.5)</u>	<u>(\$67.8)</u>
Total Debt Service	(\$121.9)	(\$150.4)	(\$161.8)	(\$118.1)	(\$135.4)	(\$138.8)

Total Requirements	(\$2,847.7)	(\$2,522.9)	(\$2,548.2)	(\$2,592.7)	(\$2,769.0)	(\$2,800.3)
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Net Operations	\$315.8	\$142.7	\$121.6	\$195.8	\$156.4	\$157.0
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Capital Receipts :

Sale of Bonds, Promissory Notes & Commercial Paper	\$138.6	\$189.3	\$193.9	\$99.2	\$363.6	\$119.8
Less : Repayments	(\$155.8)	(\$104.5)	(\$100.0)	(\$69.8)	(\$68.6)	(\$80.9)
Earnings on Construction Funds	\$0.0	\$0.2	\$0.2	\$0.3	\$0.4	\$0.3
DSM Recovery Receipts	\$109.1	\$125.0	\$201.6	\$126.8	\$147.3	\$169.6
Temporary Asset Transfer Return from NYS	\$18.0	\$21.0	\$22.0	\$65.0	\$65.0	\$43.0
Other	<u>\$92.0</u>	<u>\$94.5</u>	<u>\$2.5</u>	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>
Total Capital Receipts	\$201.9	\$325.5	\$320.2	\$221.5	\$507.7	\$251.8

Capital Additions & Refunds :

Additions to Electric Plant in Service and Construction Work in Progress, and Other costs	(\$480.6)	(\$477.1)	(\$487.6)	(\$692.6)	(\$678.1)	(\$689.0)
Construction Funds - Net Transfer	<u>\$0.0</u>	<u>(\$0.2)</u>	<u>(\$71.7)</u>	<u>\$71.2</u>	<u>(\$138.6)</u>	<u>\$137.9</u>
Total Capital Additions & Refunds	(\$480.6)	(\$477.3)	(\$559.3)	(\$621.4)	(\$816.7)	(\$551.1)

Net Capital	(\$278.7)	(\$151.8)	(\$239.1)	(\$399.9)	(\$309.0)	(\$299.3)
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Net Increase/(Decrease)	\$37.1	(\$9.1)	(\$117.5)	(\$204.1)	(\$152.6)	(\$142.3)
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(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 significant 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 facilities 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 to municipal electric systems, rural electric cooperatives, industrial and other business customers, certain public bodies, investor-owned utilities and out-of-state customers.

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 Four-Year Plan models Trustee-approved rate increases for customers as well as prospective rate increases.

Niagara's expansion and replacement power industrial customers and St. Lawrence-FDR's industrial customers are allocated over 40% 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: the Power for Jobs ("PFJ") and Energy Cost Savings Benefits ("ECSB") programs. RNYPP is a permanent power program administered by the Authority and the Economic Development Power Allocation Board ("EDPAB"). The RNYPP utilizes 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 455 MW of hydropower was, until August 1, 2011, provided to residential and domestic customers of three upstate utilities. 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. PFJ and ECSB program customers that applied for, but were not awarded RNYPP allocations, were eligible for certain transitional electricity discounts. These discounts, payable if deemed feasible and advisable by the Authority's Trustees, will gradually decline to zero by June 30, 2016. 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 this 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.

In April 2014 a partial shutdown went into effect at Alcoa (Massena East Plant) due to the economic downturn, and specifically the decreased prices for Aluminum. In response, NYPA created the temporary North Country Discount Program ("TNCDP"), which was approved by the Trustees in March 2015. The funds to support this program are generated by the net margins produced by the sale of unused hydropower at Alcoa East into the wholesale energy market. This plan is limited to ten million dollars (\$10,000,000) per year, with a total authorization requested of thirty million dollars (\$30,000,000). NYPA worked with the upstate utilities (National Grid and NYSEG) to construct a financial pathway to flow dollars from NYPA to the businesses and active dairy farms in the targeted St. Lawrence Preservation Power region through reductions in the local utility's monthly electric bill. This commitment runs for three years or until Alcoa East

returns to service. In November 2015, Alcoa announced a temporary curtailment of production at its second smelting facility, the Massena West plant, also due to the depressed aluminum market. Similar events were also announced at other Alcoa facilities in the United States. The details and timing of the West Plant shutdown were not known at the time the 2016-2019 Approved Budget and Financial Plan was assembled, and are therefore not included in these projections. The Authority will continue to monitor the potential impact of this announced curtailment.

In its 2014 legislative session, the New York State Legislature passed a bill that created 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”) sold by the Authority in the wholesale energy market into an account the Authority administers known as the Northern New York Economic Development Fund (“NNY Fund”), and to make awards to eligible applicants that propose eligible projects that satisfy applicable criteria. The NNYPPA also establishes a five-member Northern New York Power Allocations Board appointed by the Governor.

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 Contract”). 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 can 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 can 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 made to the NNY Fund have been incorporated into this 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. Starting in May 2013, proceeds from the WNY Fund have been 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. Payments from the Authority to the WNY Fund have been incorporated into this 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 500-MW 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 and grandfathered transmission rights offset the cost of the energy purchased. A set amount of capacity from the Blenheim-Gilboa project is also dedicated to serving a portion of this customer class.

In 2005, the Authority and its major New York City governmental customers entered into long-term supplemental electricity supply agreements (“2005 LTA”). Under the 2005 LTA, the NYC governmental customers agreed to purchase their electricity from the Authority through December 31, 2017, with the NYC governmental customers having the right to terminate service from the Authority at any time on three years’ notice and, under certain limited conditions, on one year’s notice, provided that they compensate the Authority for any above-market costs associated with certain resources used to supply these customers.

Under the 2005 LTA, the Authority modifies rates annually through a formal rate proceeding if there is a change in fixed costs to serve the New York City governmental customers. Generally, changes in variable costs, which include fuel and purchased power, are captured through annual contractual pricing adjustment mechanisms.

In 2007, the Authority entered into new supplemental electricity supply agreements (“2007 Supplemental Agreements”) with more than one-hundred governmental customers in Westchester County, resulting in the Westchester governmental customers remaining full requirements customers of NYPA. The Westchester County customers can terminate the contract upon one year’s notice, effective no sooner than the January 1st following such notice. The Authority may modify the rates charged the customer pursuant to a specified procedure; an energy charge adjustment mechanism is applicable to all variable costs; the customer is committed to pay for any supply resources secured for it by the Authority under a collaborative process; and NYPA will continue to make available financing for energy efficiency projects and initiatives, with costs thereof to be recovered from the customer.

For purposes of the Four-Year Plan, it is assumed that both the 2005 LTA and the 2007 Supplemental Agreements will be extended through the Four-Year Plan forecast period, such that the SENY governmental customers will continue to be served and rates for these customers will be set on the basis of the cost to serve these loads.

Blenheim-Gilboa Customers

The Authority had a contract for the sale of 50 MW of firm capacity from the Blenheim-Gilboa plant to the Long Island Power Authority (“LIPA”) which expired in April of 2015. The Authority additionally has an active contract for the sale of 250 MW of firm capacity to the Authority’s New York City governmental customers, the rates for which are reset periodically on the basis of cost. The remainder of the plant’s capacity is used to meet the requirements of some of the Authority’s other business and governmental customers and/or sold in the NYISO market. For purposes of the Four-Year Plan, it has been assumed that the allocation to the New York City governmental customers continues.

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. The plant at the Vernon location is assumed to be retired during the forecast period pursuant to the terms of an agreement entered into at the time of construction.

For the 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 auction. NYPA sells the energy produced by the SCPPs into the NYISO energy market.

Flynn

The Flynn project is a combined-cycle facility with a nameplate rating of 164 MW. The entire output of the plant had previously been sold to LIPA, however LIPA terminated the Flynn contract on April 30, 2014. The Flynn project now operates as a merchant plant, with capacity and energy output sold into the NYISO market. The forecast is for Flynn to operate as a merchant plant for the next four years.

Transmission Projects

The Authority owns approximately 1,400 circuit miles of high voltage transmission lines, the major lines being the 765-kV Massena-Marcy line, the 345-kV Marcy-South line, the 345-kV Niagara-to-Edic line, and the 345-kV Long Island Sound Cable.

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. NYPA receives cost recovery through the NYISO tariff mechanism known as the NYPA Transmission Adjustment Charge (“NTAC”), which recovers transmission 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 July 2015, the Authority filed for a transmission revenue requirement formula rate to cover increased operating and maintenance expenses of its bulk transmission system, as well as to make necessary capital improvements. FERC subsequently rejected the filing. NYPA has since withdrawn the filing to facilitate a

clean re-submittal to address the substance of FERC's rejection. The annual TRR of \$175.5 million will remain in effect until the new rate filing, and is assumed to continue throughout the forecast period.

Hudson Transmission Project

Following a request for proposals issued by the Authority in March 2005, the Authority executed a firm transmission capacity purchase agreement with HTP in April 2011. HTP constructed a 345-kV underground/submarine transmission line extending from Bergen County, New Jersey to Con Edison's West 49th Street substation in midtown Manhattan. The transmission line commenced operation in June 2013, and is operating as a merchant facility.

Strategic Initiatives

The Authority is pursuing several initiatives, which are in varying stages of review, development and 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.

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

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 the Four-Year Plan, projected energy rates are based on available forward price curves while the capacity rates are estimated using the NYISO demand curve methodology.

Fuel Expenses

Fossil-fuel purchases in the 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.

Investment and Other Income

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 National Mortgage Association and Federal Home Loan Bank, 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 U.S. Government.

Other Income

On November 21, 2000 ("Closing Date"), the Authority sold its nuclear plants, the Indian Point 3 ("IP3") and James A. FitzPatrick ("JAF") Projects, to two subsidiaries of the Entergy Corporation for cash and non-interest bearing notes totaling \$967 million, maturing over a 15-year period. The present value of these payments recorded on the Closing Date, utilizing a discount rate of 7.5%, was \$680 million. On an accrual basis the Authority expects to recognize interest and other income of \$1.2 million in 2015. On a cash basis the Authority projects to receive \$20 million during 2015. In addition, the Authority entered into two "value sharing agreements" ("VSAs") with the Entergy subsidiaries whereby the Authority is entitled to receive annual payments up to a maximum of \$72 million, with the last VSA cash payment being made in early 2015 while being recorded as revenue on the 2014 income statement. Also, if the licenses of JAF and/or IP3 are extended, the Decommissioning Agreements provide for annual payments of \$2.5 million per plant each year beyond the expiration dates. JAF's license has been extended past the original date of October 17, 2014 by twenty years. However, due to the posted JAF generator deactivation notice, no \$2.5 million payments related to JAF have been included in the Four-Year Plan after 2016. Because IP3 relicensing has not yet taken place, no additional \$2.5 M payments related to IP3 have been forecasted in the Four-Year Plan.

Operations and Maintenance Expenses

NYPA's O&M plan by cost element for 2016-2019 is as follows:

Operations and Maintenance Forecast by Cost Element

(in Millions)

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
<u>Payroll</u>				
Regular Pay	\$ 169.8	\$ 175.8	\$ 181.9	\$ 188.3
Overtime	\$ 9.2	\$ 9.5	\$ 9.8	\$ 10.2
Other Payroll	<u>\$ 2.2</u>	<u>\$ 2.3</u>	<u>\$ 2.3</u>	<u>\$ 2.4</u>
Total Payroll	\$ 181.2	\$ 187.5	\$ 194.1	\$ 200.9
<u>Benefits</u>				
Employee Benefits	\$ 35.8	\$ 37.0	\$ 38.3	\$ 39.7
Pension	\$ 30.2	\$ 29.0	\$ 28.0	\$ 27.0
OPEB	\$ 17.5	\$ 15.0	\$ 16.0	\$ 16.0
FICA	<u>\$ 13.0</u>	<u>\$ 13.5</u>	<u>\$ 13.9</u>	<u>\$ 14.4</u>
Total Benefits	\$ 96.5	\$ 94.5	\$ 96.3	\$ 97.1
Materials/Supplies	\$ 18.8	\$ 19.5	\$ 20.2	\$ 20.9
Fees	\$ 8.9	\$ 9.2	\$ 9.5	\$ 9.8
Office & Station	\$ 17.7	\$ 18.3	\$ 18.9	\$ 19.6
Maintenance Repair & Service Contracts	\$ 133.4	\$ 167.7	\$ 166.9	\$ 170.1
Consultants	\$ 31.3	\$ 32.4	\$ 33.5	\$ 34.7

Charges to:

Outside Agencies	\$ (2.7)	\$ (2.7)	\$ (2.8)	\$ (2.8)
Capital Programs	<u>\$ (45.9)</u>	<u>\$ (47.5)</u>	<u>\$ (49.2)</u>	<u>\$ (50.9)</u>
Total Charges	\$ (48.6)	\$ (50.2)	\$ (51.9)	\$ (53.7)
Research & Development	\$ 9.0	\$ 9.3	\$ 9.7	\$ 10.0
Subtotal	\$ 448.2	\$ 488.3	\$ 497.2	\$ 509.4
Astoria Energy II	\$ 27.8	\$ 28.2	\$ 28.6	\$ 29.2
TOTAL NYPA O&M	\$ 476.0	\$ 516.6	\$ 525.9	\$ 538.8

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, 2014 expressed as a percentage of average depreciable capital assets was 2.80%.

Other Expenses

The Other Expenses category largely reflects various accruals (e.g., Other Post-Employment Benefit prior service obligations) and other miscellaneous expenses for which Trustee authorization is sought on a case-by-case basis.

(d) Self – Assessment of Budgetary Risks

Set forth below is a summary of certain of the 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.

Regulatory Risks

In 2005, the U.S. Fish and Wildlife Service ("FWS") initiated a status review under the Endangered Species Act (16 U.S.C. 1531 et seq.) to determine if listing the American eel as threatened or endangered is warranted. American eels are a fish species that migrate between freshwater and the ocean, and their wide range includes the Atlantic seaboard of the United States and Canada and the Great Lakes' drainages. In findings issued February 2, 2007, the FWS determined that such a listing is not warranted. In 2010, the FWS was again petitioned to list the American eel and in September 2011 the FWS decided to undertake a status review to determine whether such a listing is warranted. In the event the FWS were to determine in the future to list the American eel as threatened or endangered, such a determination could potentially result in significant additional costs and operational restrictions on hydroelectric generating facilities located within the range of the species, including the Authority's St. Lawrence-FDR Project.

The Regional Greenhouse Gas Initiative ("RGGI") is a cooperative effort by Northeastern and Mid-Atlantic states, including New York, to hold carbon dioxide emission levels steady from 2009 to 2014 and then reduce such levels by 2.5% annually in the years 2015 to 2018 for a total 10% reduction. 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, SCPPs and 500-MW Plant are subject to the RGGI requirements as is Astoria Energy II. The Authority has participated in program auctions commencing in September 2008 and expects to recover RGGI costs through its power sales revenues. Beginning 2014, 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 91 million tons in 2014), and will decline by 2.5% each year from 2015 through 2020. This reduction has increased the price for carbon dioxide allowances, which NYPA acquires to cover operation of its fossil-fueled power plants and Astoria Energy II. The Authority is monitoring federal legislation and proposed programs that would impact RGGI.

During 2011, the U.S. Environmental Protection Agency ("EPA") issued a series of rulings to establish the Cross-State Air Pollution Rule ("CSAPR"). 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. Following decisions by the U.S. Court of Appeals (D.C. Circuit) and the U.S. Supreme Court, the EPA issued an interim final rule on November 21, 2014 to amend the compliance deadline from 2012 and 2013 to 2015 and 2016 for CSAPR's Phase 1 emissions budgets, and from 2014 to 2017 for Phase 2 emissions budgets and assurance provisions. On July 28, 2015, the D.C. Circuit remanded part of CSAPR to the EPA for reconsideration, finding that the EPA erred in 2014 sulfur dioxide and ozone budgets for 13 states by imposing uniform emission reductions instead of assessing each upwind state's contribution (the D.C. Circuit found the result is over-control of emissions in those states based on emissions budgets). While the emissions budgets were not vacated, the DC Circuit remanded the matter for EPA to develop compliant regulations. The Authority continues to operate its fossil-fueled plants within the allocated allowances and anticipates that operation of its fossil fueled power plants will not be impacted by CSAPR.

Congressional 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.

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 2012, the Authority filed for an increased TRR consistent with those principles, which resulted in the current \$175.5 million TRR. The current TRR is incorporated into the NYISO Open Access Transmission Tariff ("OATT"). This Four-Year Plan assumes full recovery of 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 in subsequent years, has authorized the Authority, "as deemed feasible and advisable by the trustees," to make a series of "voluntary contributions" into the State treasury in connection with the PFJ program and for other purposes. Since December 2002, the Authority has made voluntary contributions to the State of \$475 million in connection with the PFJ program and an additional \$672 million unrelated to the PFJ program. The PFJ program was replaced by the RNYPP beginning July 1, 2012 with the enacting legislation authorizing transitional electricity discounts through June 30, 2016 for those PFJ and ECSB customers applying for but not receiving RNYPP allocations. For the forecast period, the Authority estimates these transitional payments at \$2.7 million for January 2016 to June 2016.

For planning purposes, the Four-Year Plan assumes that the Authority makes a voluntary contribution to the State of \$90 million in 2015 and \$90 million annually thereafter for the duration of the Four-Year Plan. Approval of any such payments to the State's general fund and/or to subsidize customers requires legislation authorizing such payments and is conditional upon the Trustees' determination that such payments are "feasible and advisable". 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. On May 24, 2011, the Authority's Trustees adopted a 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 that in deciding whether to make contributions, transfers, or payments, the Authority shall use as a reference the maintenance of a debt service coverage ratio of at least 2.0, in addition to making other determinations required by the General Resolution.

In addition to the authorization for the voluntary contributions, the Authority was authorized by February 2009 budget legislation to make certain temporary asset transfers to the State of funds 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 have 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 future 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. On April 24, 2014, the Authority and the State executed an Amendment to the MOU that became effective on July 29, 2014 and provides that the State shall, subject to appropriation by the State Legislature, return the \$103 million over 5 State fiscal years. The Authority received the first installment of \$18 million on October 1, 2014 and the second installment of \$21 million on September 17, 2015. The remaining installments provided for by the Amendment to the MOU are \$21 million for State Fiscal Year 2016-2017, \$21 million for State Fiscal Year 2017-2018, and \$22 million for State Fiscal Year 2018-2019.

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 greater voluntary contributions 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 bond rating.

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 levels at the two hydroelectric projects is about 20.2 terawatt-hours ("TWH") annually. The Authority's hydroelectric generation forecast is 22.3 TWH in 2016, 22.9 TWH in 2017, 22.5 TWH in 2018 and 21.3 TWH in 2019. 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 2016-2019 that estimated the potential net income that could result over a reasonable range of hydroelectric generation occurrences. The effects on estimated net income, assuming all other factors remain unchanged, were as follows:

	<u>Low Generation</u>		<u>High Generation</u>	
	Net Hydroelectric Generation	NYPA Net Income Change (in Millions)	Net Hydroelectric Generation	NYPA Net Income Change (in Millions)
2016	19.9 TWH	(\$71.2)	23.4 TWH	\$33.1
2017	20.4 TWH	(\$73.6)	21.8 TWH	\$34.4
2018	19.9 TWH	(\$81.8)	23.7 TWH	\$34.1
2019	18.8 TWH	(\$74.5)	22.4 TWH	\$33.9

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 mitigate downside effects, many of NYPA's customer contracts provide for the complete or partial pass-through of these costs. To moderate cost impacts to its customers, 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 meet customer needs; 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. Commodities 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 ("Swaps"). The requirements and processes are set forth in regulations promulgated by the Commodities Futures Trading Commission ("CFTC"). Pursuant to CFTC rules thus far, the Authority, as a public entity and electric utility which uses swaps solely to manage its risk, will be exempted from posting collateral beyond that of any existing credit support annexes in support of its open over-the-counter ("OTC") 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 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 process, 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. The impact on the Authority's operations of any such shortages in talent is not presently predictable or quantifiable.

Physical and Cyber Security Risk

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. 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. The impact on the Authority's operations of a successful physical or cyber-attack is not presently predictable or quantifiable.

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 based on the specific, unique natural threats at each of its generation facilities. Although the impact of a catastrophic natural event is not predictable or quantifiable, the Authority maintains close working relationships with local first responders and government agencies to ensure its ongoing preparedness.

Litigation Risk

St. Regis Litigation

In 1982 and again in 1989, three groups of Mohawk Indians (collectively, the “St. Regis Plaintiffs”), including a Canadian Mohawk tribe, filed lawsuits in the U.S. District Court for the Northern District of New York 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 (the “St. Regis Litigation”). These islands are within the boundary of the Authority’s St. Lawrence-FDR Project and Barnhart Island is the location of significant St. Lawrence-FDR Project facilities. Settlement discussions were held periodically between 1992 and 1998. In 1998, the Federal government intervened on behalf of the St. Regis Plaintiffs.

The parties agreed to a land claim settlement, dated February 1, 2005, which if implemented would include, among other things, the payment by the Authority of \$2 million a year for 35 years to the St. Regis Plaintiffs, the provision of up to 9 MW of low cost Authority power for use on the reservation, the transfer of two Authority-owned islands; Long Sault and Croil, and a 215 acre parcel on Massena Point to the St. Regis Plaintiffs, and the St. Regis Plaintiffs withdrawing any judicial challenges to the Authority’s new license, as well as any claims to annual fees from the St. Lawrence-FDR Project.

The legislation required to effectuate the settlement was never enacted and the litigation was reactivated. In November 2006, all defendants moved to dismiss the complaints of the St. Regis Plaintiffs as well as the United States’ complaint based on the lengthy delay in asserting the land claims (i.e., the laches defense). On September 28, 2012, the U.S. Magistrate recommended dismissal of all land claims brought against the Authority by the St. Regis Plaintiffs as well as the Federal government. The U.S. Magistrate upheld the Authority’s laches defense and also recommended dismissal on the same grounds of all claims by the same plaintiffs against the other defendants relating to all but one of the other challenged mainland parcels.

In orders dated July 2013, the District Court accepted the Magistrate’s recommendation and granted the Authority judgment on the pleadings. The Court accepted all but one of the Magistrate’s other recommendations, which resulted in dismissal of all land claims against the other defendants except those relating to two mainland parcels. Barring an appeal by the plaintiffs, all claims against the Authority have been dismissed and the lawsuit against the Authority is concluded.

The State and the St. Regis Mohawk Tribe (the “Tribe”) have been discussing a settlement of the land claims, as well as other issues between the State and the Tribe. On May 28, 2014, the State, the Tribe, St. Lawrence County and the Authority executed a Memorandum of Understanding (the “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. In addition, on or before a final settlement of the litigation, all parties to the St. Regis Litigation would have to agree to a settlement of all outstanding claims, including parties that did not execute the St. Regis MOU, such as the two other Mohawk groups, the federal government and Franklin County. Before any settlement becomes effective and the Authority is obligated to make any payments contemplated by the St. Regis MOU, however, federal and state legislation must be enacted which approves the settlement and extinguishes all Mohawk land claims.

Tropical Storm Irene

In August 2012, the County of Schoharie, eight towns and villages therein, and one school district (the “Municipalities”) initiated a lawsuit in Schoharie County Supreme Court against the Authority involving the heavy rains and widespread flooding resulting from Tropical Storm Irene’s passage through the Northeast in August 2011. The Municipalities essentially alleged that they sustained property damage and lost tax revenues resulting from lowered assessed valuation of taxable real property due to the Authority’s negligence in its operations at the Blenheim-Gilboa pumped-storage hydroelectric facility located on the Schoharie Creek in Schoharie County, New York. The Municipalities’ complaint seeks judgment “in an amount to be determined at trial with respect to each [of the ten plaintiffs] in the sum of at least \$5,000,000, plus punitive damages in the sum of at least \$5,000,000” as well as attorney fees. As of October 31, 2014, all of the Municipalities have discontinued their lawsuits against the Authority.

In February 2012, a private landowner filed a similar lawsuit in Schoharie County Supreme Court on behalf of a park campground and makes nearly the same allegations made by the Municipalities with the plaintiff

seeking at least \$5 million in damages, at least \$5 million in punitive damages, as well as attorney's fees. In December 2012, the Authority was served with a third lawsuit by five plaintiffs arising out of Tropical Storm Irene and the Authority's operation of its Blenheim-Gilboa Pumped Storage Project. The five plaintiffs include three individual landowners owning properties located in Schoharie, NY and Central Bridge, NY and claiming damages in the aggregate amount of \$1.55 million, and two corporations also owning properties in Schoharie, NY and claiming damages in the aggregate amount of \$1.05 million. On October 27, 2014, the Court granted the Authority's motion to change the place of trial. The Court directed the Clerk of Court to transfer the proceedings to Albany County. Discovery, which is joined for these two remaining actions, is ongoing.

Long Island Sound Cable

In January 2014, one of the 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. NYPA incurred approximately \$33 million in costs arising out of this incident and has recovered \$10 million from its property insurance claim. The Authority's unaudited statement of net position at June 30, 2015 includes \$23 million in long-term assets, reflecting the cost of the damages net of insurance recoveries. The Authority believes that it will be able to recover the full amount of its damages through legal proceedings, other insurance coverage and contractual obligations.

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.

(e) Revised Forecast of 2015 Budget
(in Millions)

	Original Budget <u>2015</u>	Forecast <u>2015</u>	Variance Better/(Worse) <u>2015</u>
<u>Operating Revenues:</u>			
Customer Revenues	\$1,984.7	\$1,846.2	(\$138.5)
NYISO Market Revenues	<u>\$1,103.7</u>	<u>\$849.1</u>	<u>(\$254.6)</u>
Total Operating Revenues	\$3,088.4	\$2,695.3	(\$393.1)
<u>Operating Expenses:</u>			
Purchased Power	\$868.4	\$718.3	\$150.1
Fuel	\$291.7	\$256.6	\$35.1
Wheeling Expenses	\$618.1	\$589.0	\$29.2
O&M Expenses	\$456.5	\$454.1	\$2.4
Other Expenses	\$213.2	\$162.5	\$50.7
Depreciation and Amortization	<u>\$230.6</u>	<u>\$237.4</u>	<u>(\$6.7)</u>
Total Operating Expenses	\$2,678.5	\$2,417.9	\$260.7
NET OPERATING REVENUES	\$409.9	\$277.5	(\$132.5)
<u>Other Income:</u>			
Investment Income	\$41.5	\$29.4	(\$12.2)
Other Income	<u>\$10.0</u>	<u>\$2.2</u>	<u>(\$7.8)</u>
Total Other Income	\$51.5	\$31.6	(\$19.9)
<u>Non-Operating Expenses</u>			
Interest & Other Expenses	\$165.9	\$165.6	\$0.4
Contributions to State	<u>\$90.0</u>	<u>\$90.0</u>	<u>\$0.0</u>
Total Non-Operating Expense	\$255.9	\$255.6	\$0.4
NET INCOME	\$205.5	\$53.5	(\$152.0)

(f) Reconciliation of 2015 Budget and 2015 Revised Forecast

The 2015 year-end net income projection is \$53.5 million, which is \$152 million below budget. This negative variance is primarily a result of persistent low energy prices in combination with reduced hydroelectric generation at the Niagara and St. Lawrence-FDR projects due to below average precipitation over the Great Lakes. These factors are driving the variance in Operating Revenues, Purchased Power, and Fuel.

(g) Statement of 2014 Financial Performance

**New York Power Authority
Net Income - Actual vs. Budgeted
For the Year ended December 31, 2014
(in millions)**

	Actual	Budget	Variance Favorable/ (Unfavorable)
Operating Revenues			
Customer	\$2,088	\$2,138	(\$50)
NYISO Market Revenues	\$1,088	\$6786	\$302
Total Operating Revenues	\$3,175	\$2,924	\$251
Operating Expenses			
Purchased Power	\$996	\$835	(\$161)
Fuel	\$361	\$300	(\$61)
Wheeling	\$614	\$614	\$0
Operations & Maintenance	\$402	\$406	\$5
Other Expenses	\$173	\$217	\$43
Depreciation & Amortization	\$232	\$229	(\$3)
Allocation to Capital	(\$13)	(\$18)	(\$5)
Total Operating Expenses	\$2,765	\$2,582	(\$183)
Operating Income	\$410	\$342	\$69
Nonoperating Revenues and Expenses			
Nonoperating Revenues			
Investment Income	\$21	\$27	(\$6)
Other income	\$94	\$75	\$19
Total Nonoperating Revenues	\$115	\$102	\$13
Nonoperating Expenses			
Contribution to New York State	\$90	\$90	\$0
Interest and Other Expenses	\$163	\$176	\$13
Total Nonoperating Expenses	\$253	\$266	\$13
Nonoperating Income (Loss)	(\$138)	(\$164)	\$26
Net Income	\$272	\$178	\$94

Net Income for the year ended December 31, 2014 was \$272 million, which was \$94 million above the budget of \$178 million. Major contributing factors to the positive variance included higher net margins on market based sales, primarily at the St. Lawrence-FDR and Blenheim-Gilboa projects, resulting from higher hydro production and higher energy prices. Severe winter weather conditions caused a spike in market energy prices, which exceeded the budget by more than 100% early in 2014. The impact of lower energy prices due to mild summer weather offset a portion of this positive variance. Lower other operating expenses resulted from timing of programs and FEMA cost reimbursements related to Hurricane Irene.

(h) Employee Data – number of employees, full-time, FTEs and functional classification

	<u>2016</u> <u>Request</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Headquarters	677	677	677	677
Power Generation	967	967	967	967
Transmission	164	164	164	164
R&D	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>
TOTAL	1,822	1,822	1,822	1,822

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

As the Authority is projecting positive net income for the 2016-2019 period, there are no planned gap-closing programs.

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

See discussion in “Other Income” section.

(k) Shift in Material Resources

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

(l) Debt Service

New York Power Authority Projected Debt Outstanding (FYE) <i>(in thousands)</i>				
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Revenue Bonds	\$934,771	\$875,750	\$1,066,149	\$999,201
Adjustable Rate Tender Notes	\$0	\$0	\$0	\$0
Subordinated Note (2012)	\$21,995	\$21,200	\$20,395	\$19,575
Commercial Paper Notes	\$488,914	\$526,342	\$567,167	\$606,092
<u>Grand Total</u>	<u>\$1,445,680</u>	<u>\$1,423,293</u>	<u>\$1,653,711</u>	<u>\$1,624,869</u>

New York Power Authority
Debt Service as Percentage of Pledged Revenues (Accrual Basis)
(Debt Service in thousands)

	2016		2017		2018		2019	
	<u>Debt Service</u>	<u>% of Rev.</u>	<u>Debt Service</u>	<u>% of Rev.</u>	<u>Debt Service</u>	<u>% of Rev.</u>	<u>Debt Service</u>	<u>% of Rev.</u>
Revenue Bonds	\$109,909	4.02%	\$109,718	3.86%	\$127,330	4.29%	\$127,079	4.24%
Adjustable Rate Tender Notes	\$1,886	0.07%	\$0	0.00%	\$0	0.00%	\$0	0.00%
Subordinated Debt	\$1,504	0.06%	\$1,505	0.05%	\$1,504	0.05%	\$1,505	0.05%
Commercial Paper Notes	\$5,366	0.20%	\$6,870	0.24%	\$8,769	0.30%	\$10,133	0.34%
<u>Grand Total Debt Service</u>	<u>\$118,665</u>	<u>4.34%</u>	<u>\$118,092</u>	<u>4.15%</u>	<u>\$137,603</u>	<u>4.63%</u>	<u>\$138,718</u>	<u>4.63%</u>

New York Power Authority
Planned Use of Debt Issuances
(in thousands)

<u>TYPE</u>	<u>Amount</u>	<u>Assumed Interest Rate</u>	<u>Project / Description</u>
<u>Period January 1, 2016 – December 31, 2016</u>			
Tax Exempt Commercial Paper	\$87,492	0.25%	Energy Efficiency Program
Taxable Commercial Paper	\$3,161	0.50%	Energy Efficiency Program
Taxable Revenue Bonds	\$103,293	6.25%	Niagara Power Plant / Transmission
Total Issued 2016	<u>\$193,946</u>		
<u>Period January 1, 2017 – December 31, 2017</u>			
Tax Exempt Commercial Paper	\$95,475	0.50%	Energy Efficiency Program
Taxable Commercial Paper	\$3,736	0.75%	Energy Efficiency Program
Total Issued 2017	<u>\$99,211</u>		
<u>Period January 1, 2018 – December 31, 2018</u>			
Tax Exempt Commercial Paper	\$103,462	0.75%	Energy Efficiency Program

Taxable Commercial Paper	\$5,971	1.00%	Energy Efficiency Program
Tax Exempt Revenue Bonds	\$11,489	4.50%	Niagara Power Plant
Taxable Revenue Bonds	\$242,651	6.25%	Niagara Power Plant / Transmission
Total Issued 2018	<u>\$363,574</u>		

**Period January 1, 2019 –
December 31, 2019**

Tax Exempt Commercial Paper	\$109,831	1.00%	Energy Efficiency Program
Taxable Commercial Paper	\$9,945	1.25%	Energy Efficiency Program
Total Issued 2019	<u>\$119,776</u>		

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 (Accrual Basis)

Outstanding (Issued) Debt

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2016	\$58,686,750	\$52,698,156	\$111,384,906
2017	\$59,547,389	\$50,748,652	\$110,296,041
2018	\$62,653,556	\$48,543,558	\$111,197,113
2019	\$65,704,167	\$45,032,515	\$110,736,682

Proposed Debt

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2016	\$711,729	\$6,568,068	\$7,279,797
2017	\$671,135	\$7,125,186	\$7,796,321
2018	\$2,506,726	\$23,898,798	\$26,405,523
2019	\$2,447,074	\$25,534,026	\$27,981,100

Total Debt

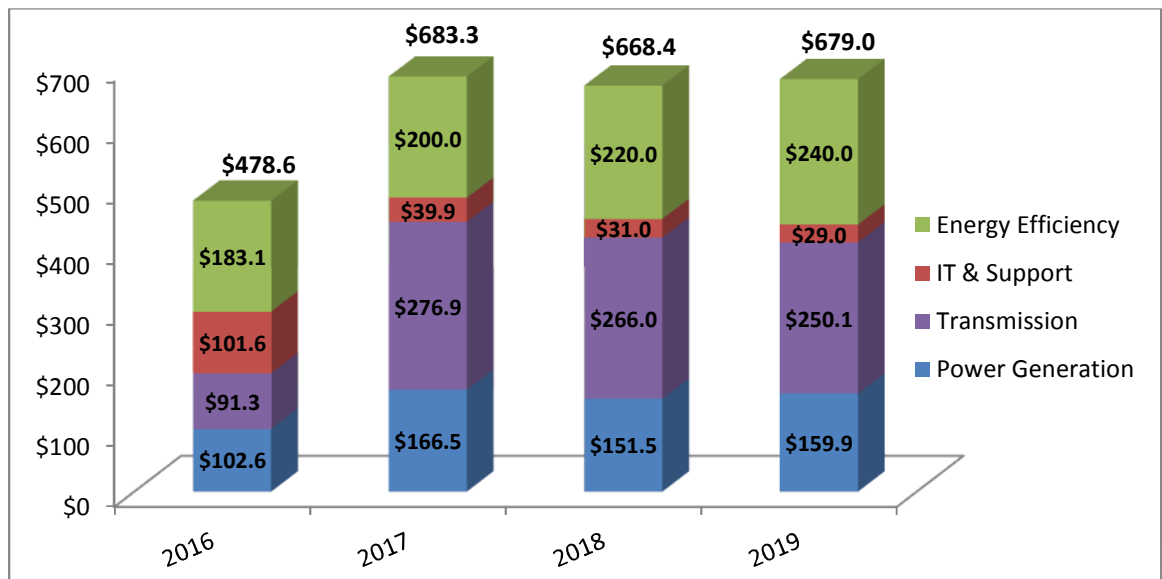
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2016	\$59,398,479	\$59,266,224	\$118,664,702
2017	\$60,218,524	\$57,873,838	\$118,092,362
2018	\$65,160,281	\$72,442,355	\$137,602,637
2019	\$68,151,241	\$70,566,541	\$138,717,782

(m) Capital Commitments and Sources of Funding

The Authority's commitments for various capital improvements are approximately \$2.5 billion over the financial period 2016-2019. 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:

(In thousands)	2016	2017	2018	2019
Transmission Life Extension & Modernization (LEM)	\$ 42,440	\$ 70,839	\$ 65,434	\$ 67,295
STL - New Security and Warehouse Facility	\$ 1,030	\$ 15,450	\$ 2,936	\$ 205
STL Generator Step-Up (GSU) Transformer Replacement	\$ 6,970	\$ 8,476	\$ -	\$ -
SGT: Smart G&T Initiative Future Planning	\$ -	\$ 107,000	\$ 112,744	\$ 94,430
MA1 & MA2 - 230KV Replacement	\$ 7,895	\$ 44,379	\$ 73,629	\$ 73,633
IT Initiatives	\$ 33,903	\$ -	\$ -	\$ -
Blenheim Gilboa Relicensing	\$ 3,015	\$ 5,490	\$ 3,438	\$ 1,357
500MW Install Advanced HGP (Hot Gas Path) Components	\$ 22	\$ 20,008	\$ -	\$ -
Marcy South Series Compensation	\$ 25,199	\$ 29	\$ -	\$ -
Lewiston Pump Generating Plant (LPGP) LEM	\$ 38,568	\$ 48,000	\$ 53,000	\$ 54,000
Total Energy Efficiency	\$ 183,053	\$ 200,000	\$ 220,000	\$ 240,000
Other	\$ 136,506	\$ 163,621	\$ 137,256	\$ 148,116
GRAND TOTAL	\$ 478,601	\$ 683,291	\$ 668,437	\$ 679,036

2016-2019 Capital Commitments by Function
(in millions)



**POWER AUTHORITY OF THE STATE OF NEW YORK
EMPIRE STATE DEVELOPMENT**

FRAMEWORK AGREEMENT

AMONG

**POWER AUTHORITY OF THE STATE OF NEW YORK,
NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d/b/a EMPIRE STATE DEVELOPMENT**

AND

ALCOA INC.

DECEMBER 18, 2015

POWER AUTHORITY OF THE STATE OF NEW YORK

30 South Pearl Street, 10th Floor
Albany, New York 12207-3425

NEW YORK STATE URBAN DEVELOPMENT CORPORATION

d/b/a EMPIRE STATE DEVELOPMENT

633 Third Avenue
New York, NY 10017

ALCOA INC.

390 Park Avenue
New York, NY 10022-4608

FRAMEWORK AGREEMENT

AMONG

POWER AUTHORITY OF THE STATE OF NEW YORK,

EMPIRE STATE DEVELOPMENT

AND

ALCOA INC.

Alcoa Inc. hereby enters into this Framework Agreement (this "Framework Agreement") with the Power Authority of the State of New York (the "Authority" or "NYPA") and New York State Urban Development Corporation d/b/a Empire State Development ("ESD," and collectively with Alcoa and NYPA, the "Parties"), pursuant to which Alcoa will continue operations at its Park Avenue East Plant (the "West Plant"), Massena, New York, 13622, in exchange for operating expense and capital support to be provided by ESD and for electric power and energy supply discounts to be provided by the Authority, as follows:

WHEREAS, the Authority and Alcoa, in or around February 2009, entered into a contract entitled "Agreement for the sale of Firm and Interruptible Hydroelectric Power and Energy From the St. Lawrence-FDR Power Project to Alcoa Inc." (the "2009 Agreement");

WHEREAS, the Authority and Alcoa, in or around January 2011, entered into an amendment entitled "First Supplemental Agreement Modifying Certain Agreements and Understandings Between the Parties Regarding the Sale of Hydroelectric Power and Energy" (the "2011 Supplemental Agreement") which, among other things, modified the 2009 Agreement;

WHEREAS, the Authority and Alcoa, in or around March 2014, entered into an amendment entitled "Supplemental Agreement Further Modifying the 2009 Agreement Between the Parties Regarding the Sale of Hydroelectric Power and Energy" (the "2014 Supplemental Agreement") which, among other things, further modified the 2009 Agreement;

WHEREAS, Alcoa announced on September 28, 2015 that its board of directors had approved a plan to separate into two independent, publicly-traded companies (the "Separation") consisting of: (1) a company that will consist of the five business units that today make up Global Primary Products (the "Upstream Company"), and (2) a company that will include Global Rolled Products, Engineered Products and Solutions, and Transportation and Construction Solutions (the "Value-Add Company");

WHEREAS, the Parties agree herein to the transfer, novation and/or assignment of Alcoa's rights and obligations under this Framework Agreement to the Upstream Company or its affiliates in connection with or in anticipation of the Separation, and, notwithstanding anything to the contrary, further agree that following the Separation, all Upstream Company and Value-Add Company employees located at Massena, New York will continue to be counted toward the employment commitment of Alcoa set forth in this Framework Agreement;

WHEREAS, the Parties intend that this Framework Agreement provides a framework for the entire understandings of the Parties entered into simultaneously with this Framework Agreement that collectively form the transactions contemplated herein, including an "Agreement for the Sale of Firm Hydroelectric Power and Energy from the St. Lawrence-FDR Power Project to Alcoa Inc.", which attaches and incorporates Service Tariff No. AL-1, with the Authority concerning the provision of electric capacity and energy, the form of which is set forth on Schedule 1 (the "Power Supply Agreement") and a separate grant disbursement agreement with ESD concerning the provision of operating expense and capital support, which is attached hereto and incorporated herein as Schedule 2 (the "ESD Grant Agreement"), all of which Power Supply Agreement and ESD Grant Agreement and transactions contemplated therein are incorporated in this Framework Agreement as if set forth in full herein;

WHEREAS, in exchange for the support of the Authority and ESD, as provided for herein and in the transactions contemplated, Alcoa desires and hereby pledges to continue smelter operations at the West Plant and to make certain employment commitments at the West Plant, all as set forth more fully herein;

NOW THEREFORE, for and in consideration of the premises, mutual promises and agreements set forth herein and other good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, the Parties, each intending to be legally bound, agree as follows:

I. Definitions; Construction

A. Definitions: In addition to the initially capitalized terms and phrases defined in the preamble and recitals of this Framework Agreement, the following initially capitalized terms and phrases as and when used in this Framework Agreement shall have the respective meanings set forth below:

"2009 Agreement" has the meaning ascribed to it in the first "Whereas" clause.

"2011 Supplemental Agreement" has the meaning ascribed to it in the second "Whereas" clause.

"2014 Supplemental Agreement" has the meaning ascribed to it in the third "Whereas" clause.

“Additional Grant” has the meaning ascribed to it in Section IV.

“Alcoa” means Alcoa Inc. or its successors and assigns, including but not limited to the Upstream Company and the Value-Add Company.

“Allocation” has the meaning ascribed to it in the Power Supply Agreement.

“Authority” means the Power Authority of the State of New York.

“Base Employment Level” has the meaning ascribed to it in Section III.

“Base Employment Level Breach” has the meaning ascribed to it in Section VII.

“Business Day” means any day other than a Saturday, Sunday or any other day on which national banks in New York, New York are not open for business.

“Claiming Party” has the meaning ascribed to it in Section XI.

“Confidential Curtailment Information” has the meaning ascribed to it in Section VIII.

“Curtailed Locations” has the meaning ascribed to it in Section III.

“Electric Service” is Power and Energy sold to Alcoa in accordance with this Framework Agreement, the Power Supply Agreement and the applicable Service Tariff and Rules.

“Employee Separation” has the meaning ascribed to it in Section III.

“ESD” means the Urban Development Corporation d/b/a Empire State Development.

“ESD Grant Agreement” has the meaning ascribed to it in the sixth “Whereas” clause.

“Event of Default” has the meaning ascribed to it in Section VI.

“Execution Date” has the meaning set forth in Section II.

“Firm Power and Energy” has the meaning ascribed to it in the Power Supply Agreement.

“FERC” means the Federal Energy Regulatory Commission (or any successor organization).

“FERC License” means the license issued by FERC to the Authority for the continued operation and maintenance of the Project, pursuant to Section 15 of the Federal Power Act.

“Force Majeure” has the meaning ascribed to it in Section XI.

“Framework Agreement” has the meaning ascribed to it in the Recitals.

“Full-Time Employee” means a full-time, permanent, private-sector employee on Alcoa’s payroll, working at the West Plant for a minimum of thirty-five hours per week for not less than four consecutive weeks who is entitled to receive the usual and customary fringe benefits

extended by Alcoa to other employees with comparable rank and duties. The requirement that a Full-Time Employee shall be employed for not less than four consecutive weeks shall not apply to any employee hired to fill a Full-Time Employee vacancy resulting from a termination for cause.

“Involuntary Separation Package” has the meaning ascribed to it in Section III.

“Liquidated Damages” has the meaning ascribed to it in Section VII.

“NYPA” means the Power Authority of the State of New York.

“NYISO” has the meaning ascribed to it in the Power Supply Agreement.

“Operative Documents” means this Framework Agreement, the Power Supply Agreement and the ESD Grant Agreement.

“PAL” means the New York Public Authorities Law, Chapter 43A, of the Consolidated Laws of New York.

“Parties” has the meaning ascribed to it in the Recitals.

“Power Supply Agreement” means the Agreement for the Sale of Firm Hydroelectric Power and Energy from the St. Lawrence-FDR Power Project to Alcoa Inc. which attaches and incorporates Service Tariff No. AL-1, as described in the sixth “Whereas” clause.

“Project” means the Authority's St. Lawrence-FDR Project, FERC Project No. 2000.

“Rules” are the applicable provisions of the Authority's Rules and Regulations for Power Service (Part 454 of Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York) as they are modified from time to time.

“Section 1009 Approval” has the meaning ascribed to it in Section V.

“Separation” has the meaning ascribed to it in the fourth “Whereas” clause.

“Separation Packages” has the meaning ascribed to it in Section III.

“Service Tariff” is a schedule or tariff of the Authority establishing rates, terms and other conditions for sale of Electric Service to Alcoa, including Service Tariff No. AL-1 as it may be modified from time to time, except as noted herein.

“Term” has the meaning ascribed to it in Section II.

“Term Sheet” means the Term Sheet For Agreement Among the Power Authority of the State of New York, Empire State Development and Alcoa Inc. dated November 24, 2015.

“Upstream Company” has the meaning ascribed to it in the fourth “Whereas” clause.

“Value-Add Company” has the meaning ascribed to it in the fourth “Whereas” clause.

“Voluntary Separation Package” has the meaning ascribed to it in Section III.

“West Plant” has the meaning ascribed to it in the Recitals.

B. Rules of Construction: Unless otherwise indicated, (i) defined terms include the plural as well as the singular; (ii) any agreement defined or referred to herein includes each amendment, modification and supplement thereto and waiver, approval and consent in respect thereof as may become effective from time to time and includes references to all Appendices, Exhibits, Schedules and other attachments thereto and instruments, agreements or other documents incorporated therein; (iii) any term defined by reference to any instrument, agreement or other document has such meaning set forth in such document as of the date hereof and unless expressly amended, such meaning shall remain in effect whether or not such document is subsequently amended, modified or terminated; (iv) a reference to any law, Rules or legal requirements includes any amendment, modification or successor thereto; (v) a reference to any Party or person includes its permitted successors and assigns; (vi) the words “include,” “includes” and “including” are not limiting and shall be deemed to be followed by the words “without limitation” whether or not in fact followed by such words or words of like import; and (vii) the terms “hereof,” “herein,” “hereunder” and comparable terms refer to this entire Framework Agreement with respect to which such terms are used and not to any particular Article, Section or subdivision hereof; and (viii) the word “day” means a “Day” as defined herein and includes each calendar day including Saturdays, Sundays and holidays.

II. Term

Upon final approvals and due execution of this Framework Agreement by each of the Parties pursuant to applicable law, this Framework Agreement and the transactions contemplated shall have effect from October 1, 2015 and end on March 31, 2019 (the “Term”).

This Framework Agreement will become effective upon execution by each of the Parties (the “Execution Date”).

III. Alcoa Covenants

A. West Plant: During the Term, Alcoa will continue smelter operations at the West Plant in Massena, New York.

B. Alcoa Employee Separation:

1. Voluntary Separation. Alcoa expects that approximately eighty (80) to one hundred (100) employees will receive severance or early retirement benefits (“Employee Separation”) at the West Plant and Alcoa agrees to implement this Employee Separation by first offering a voluntary separation package to all employees, pursuant to the plan attached hereto as Appendix A (“Voluntary Separation Package”).
2. Involuntary Separation. Alcoa will not use the involuntary separation methods described in Appendix A (“Involuntary Separation Package”, and together with the Voluntary Separation Package, the “Separation

Packages”) until employees have been given a reasonable period of time, and in no event less than twenty-one (21) days, to elect Voluntary Separation, provided that the resultant employment level at the West Plant remains compliant with the employment commitment set forth in Section III (C) below.

C. Alcoa Employment Commitments: Once an employment level of six hundred (600) Full-Time Employees at the West Plant (the “Base Employment Level”) is reached pursuant to the separation programs described in Section III (B) above, Alcoa shall not reduce employment further by utilizing voluntary separation packages or involuntary separation at the West Plant.

The Authority and ESD acknowledge that following the Separation, all Upstream Company and Value-Add Company employees located at any Alcoa facility in Massena, New York will continue to be counted toward the Base Employment Level commitment of Alcoa set forth in this Framework Agreement.

D. Maintenance of Base Employment Level. In the event that Alcoa employment at the West Plant falls below the Base Employment Level at any time due to termination of employees for cause, Alcoa promptly, and in any event in not more than thirty (30) Business Days, will fill such Full-Time Employee vacancies with qualified persons following Alcoa’s usual practice, by new hires, recall of previous employees who were involuntarily separated subject to recall rights or transfers of employees (provided such transfers are not from facilities located in New York State) having wages and benefits equivalent to existing workers at the West Plant of equivalent seniority.

E. Curtailed Locations. The Parties acknowledge that, on November 2, 2015, Alcoa announced that it would curtail its Intalco and Wenatchee primary aluminum smelters in Washington State and would partially curtail alumina refining capacity at its Pt. Comfort, Texas facility (the “Curtailed Locations”). Alcoa agrees that the Separation Packages to be offered to employees of the West Plant will be no less favorable to the employees than the voluntary and involuntary separation packages to be offered by Alcoa to employees of the Curtailed Locations. From the Execution Date of this Framework Agreement until March 31, 2016, should Alcoa offer voluntary or involuntary separation packages to employees of any of the Curtailed Locations which are more favorable to the employees than the Separation Packages described in Appendix A, Alcoa will amend the Separation Packages offered to the West Plant employees so that the resulting Separation Packages are equivalent to the separation packages offered to the employees of such Curtailed Locations.

F. Re-Training and Job Placement Services: Alcoa agrees to work with the New York State Department of Labor to ensure that all re-employment and training services and programs available through New York State and/or through New York State-sponsored programs will be provided to Alcoa employees affected by the Employee Separation. Such services will include job referral and career counseling services and résumé preparation as well as any job re-training programs which may be made available through New York State or the federal government.

G. Enhanced Voluntary Separation Benefit for Hourly Employees: Alcoa agrees that the Voluntary Separation Package to be offered to hourly employees of the West Plant will contain enhanced financial benefits and broader retirement eligibility when compared to the standard benefits to which the hourly employees of the West Plant would otherwise be entitled to had Alcoa not offered the Voluntary Separation Package.

IV. ESD Covenants

ESD shall provide Alcoa a working capital grant of twenty million six hundred thousand dollars (\$20,600,000) in accordance with the ESD Grant Agreement. In addition, ESD shall provide Alcoa another grant of twenty-three million dollars (\$23,000,000) to fund capital upgrades to the West Plant (the "Additional Grant" and together with the ESD Grant Agreement, the "ESD Grants") provided such funds are made available to ESD in the New York State 2016-2017 budget. In the event ESD is unable to provide Alcoa the Additional Grant in accordance with the terms contained in the Term Sheet by June 30, 2016, Alcoa shall have the right to terminate all Operative Documents upon written notice to the other Parties and no Party shall have any obligations or rights as against the other Parties under this Framework Agreement or any of the Operative Documents, including any obligation to pay liquidated damages as a result of such termination.

V. Authority Covenants: Firm Power and Energy

During the Term of this Framework Agreement, and subject to the Section 1009 Approval, the Authority will sell and deliver to Alcoa Firm Power and Energy from the Project pursuant to the Power Supply Agreement and the Service Tariff, which are incorporated herein by reference. The Rules and the Service Tariff are hereby incorporated into this Framework Agreement with the same force and effect as if herein set forth at length. Except as may be provided in this Framework Agreement, the Authority shall provide at least thirty (30) days' prior written notice to Alcoa of any proposed change in the Rules or Service Tariff, but in no event shall the Authority provide less notice than that provided to similarly affected customers within New York State.

The Parties acknowledge that the Power Supply Agreement shall not become effective and binding upon the Authority and Alcoa until completion of all processes and procedures required for effectiveness pursuant to Section 1009 of the PAL and the subsequent execution of the Power Supply Agreement by the chairman and secretary of the Authority (the "Section 1009 Approval"). In the event the Power Supply Agreement does not receive the Section 1009 Approval by June 30, 2016, each Party shall have the right, upon written notice to the other Party(ies), to terminate all Operative Documents and no Party shall have any obligations or rights as against the other Parties under this Framework Agreement or any of the Operative Documents, including any obligation to pay Liquidated Damages, as a result of such termination.

VI. Events of Default

A. Events of Default: Each of the following shall constitute an event of default hereunder (an "Event of Default"):

1. if Alcoa commits a material breach of any covenant contained in Section III (A) – Section III (E) above or contained in Section VIII below;
2. if a Party commits a material breach under this Framework Agreement or any of the Operative Documents (except for the matters covered in Section VI (A) (1) above);
3. if any representation or warranty made by a Party herein or in any of the Operative Documents shall have been false or misleading in any material respect as of the date the representation or warranty was made;
4. if a Party attempts to assign its rights under this Framework Agreement or any of the Operative Documents or any interest herein or therein in contravention of this Framework Agreement or any of the Operative Documents, as the case may be;
5. if a Party fails to make payments pursuant to this Framework Agreement when due; or
6. if a receiver, liquidator or trustee shall be appointed for Alcoa, or Alcoa shall be adjudicated a bankrupt or insolvent, or if any petition for bankruptcy, reorganization or arrangement pursuant to federal bankruptcy law, or any similar federal or state law, shall be filed by or against, consented to, or acquiesced in by, Alcoa or if any proceeding for the dissolution or liquidation of Alcoa shall be instituted.

B. Cure Period: Upon the occurrence of an Event of Default pursuant to this Framework Agreement, the non-defaulting Party(ies) shall send notice to the defaulting Party(ies) of such default and the defaulting Party(ies), or either of them, shall have thirty (30) days to cure such default before the non-defaulting Party(ies) become entitled to seek the remedies set forth in subsection (C) below, provided however, if such default is susceptible of cure but cannot reasonably be cured within such thirty (30) day period and provided further that the defaulting Party(ies) shall have commenced to cure such default within such thirty (30) day period and thereafter diligently and expeditiously proceeds to cure the same, then the non-defaulting Party(ies), by mutual agreement in its/their sole discretion, may extend such thirty (30) day period for such time as is reasonably necessary for the defaulting Party(ies) in the exercise of due diligence to cure such default.

C. Remedies: If an Event of Default extends beyond any cure periods provided in subsection (B) above, the non-defaulting Party(ies) by mutual agreement may terminate this Framework Agreement and the other Operative Documents upon written notice to the defaulting Party(ies) and/or pursue any other rights or remedies available pursuant to this Framework Agreement or the other Operative Documents.

VII. Termination; Liquidated Damages

Liquidated Damages Upon Breach: In the event that (i) the Authority and ESD terminate this Framework Agreement as a result of the Events of Default set forth in Section VI(A)(1)

above or (ii) Alcoa terminates this Framework Agreement for reasons other than Force Majeure or material breach by the Authority or ESD, then Alcoa shall pay, promptly upon demand, Liquidated Damages as set forth in Appendix B ("Liquidated Damages") as full and final compensation to the Authority and ESD and no other payment or charge, including demand charges, shall be payable by Alcoa as a result of such termination, whether under this Framework Agreement or the other Operative Documents. For avoidance of doubt, (i) the Liquidated Damages remedies provided in this Framework Agreement are intended to include similar recoveries provided for in the Power Supply Agreement and ESD Grant Agreement, and the Authority and ESD collectively shall be entitled to recover such damages in full together only once under the Operative Documents and shall not be entitled to any duplicative recoveries; and (ii) such Liquidated Damages are not in lieu of (A) any outstanding payables or charges due under the Power Supply Agreement for electric capacity and energy provided by the Authority, including associated charges for transmission, taxes or other NYISO assessments, prior to termination or (B) following termination of the Power Supply Agreement for any reason, any outstanding payable or charges for market rate charges for any electric capacity and energy provided by the Authority, including associated charges for transmission, taxes or other NYISO assessments, following such termination, which amounts shall separately remain due and payable.

The Authority shall invoice Alcoa for any Liquidated Damages amount(s) due in the manner set forth in this Section VII within ten (10) Business Days following the end of the calendar month in which such Liquidated Damages become due, and Alcoa will promptly pay such Liquidated Damages to the Authority. The Authority shall forward on to ESD such portion of Liquidated Damages paid by Alcoa as agreed between the Authority and ESD.

In the event that this Framework Agreement, or any of the Operative Documents, is terminated in accordance with its terms, the Parties agree that the other Operative Documents shall be deemed terminated as of the same date and such termination of the Operative Documents shall be without liability and will not trigger the payment of Liquidated Damages under this Framework Agreement or any of the Operative Documents unless the termination results from Alcoa's default pursuant to subsections (i) or (ii) of the first paragraph of this Section VII.

VIII. Communications

The Parties agree to coordinate the timing and content of any public communications regarding this Framework Agreement and the transactions contemplated hereby and Alcoa agrees that, prior to December 31, 2018, it will not make any announcements or other communications to the public, investors, or employees regarding any planned curtailment or employment reduction at the West Plant (except the Employee Separations described in Section III (C) above).

Alcoa will use its best efforts to maintain the confidentiality of any planned curtailment or employment reduction at the West Plant prior to December 31, 2018 (the "Confidential Curtailment Information") and will not disclose to any person such Confidential Curtailment Information except (a) as reasonably required in planning for the orderly and prudent operation, curtailment or closure of the West Plant following the Term hereof, provided that any

communications made to third parties shall be subject to a confidentiality agreement between Alcoa and such third party; (b) as required by any applicable law, governmental regulations, subpoena or other written demand made in accordance with applicable law or as required in connection with any legal proceedings arising from or in connection with this Framework Agreement; or (c) to any legal advisor, accountant or auditor (but labeled "CONFIDENTIAL" if appropriate with any applicable claim of exemption from public disclosure pursuant to the New York Freedom of Information Law).

IX. Limitations on Damages

THE PARTIES CONFIRM THAT, WHERE AN EXPRESS REMEDY OR SPECIFIC MEASURE OF DAMAGES IS PROVIDED IN THIS FRAMEWORK AGREEMENT, SUCH EXPRESS REMEDIES AND MEASURES OF DAMAGES SATISFY THE ESSENTIAL PURPOSES HEREOF. UNLESS EXPRESSLY HEREIN PROVIDED, A PARTY SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES, LOST PROFITS OR OTHER BUSINESS INTERRUPTION DAMAGES, BY STATUTE, IN TORT OR CONTRACT, UNDER ANY INDEMNITY PROVISION OR OTHERWISE. IT IS THE INTENT OF THE PARTIES THAT THE LIMITATIONS HEREIN IMPOSED ON REMEDIES AND THE MEASURE OF DAMAGES BE WITHOUT REGARD TO THE CAUSE OR CAUSES RELATED THERETO, INCLUDING THE NEGLIGENCE OF ANY PARTY, WHETHER SUCH NEGLIGENCE BE SOLE, JOINT OR CONCURRENT, OR ACTIVE OR PASSIVE. TO THE EXTENT ANY DAMAGES REQUIRED TO BE PAID HEREUNDER ARE LIQUIDATED, THE PARTIES ACKNOWLEDGE THAT THE DAMAGES ARE DIFFICULT OR IMPOSSIBLE TO DETERMINE, OR OTHERWISE OBTAINING AN ADEQUATE REMEDY IS INCONVENIENT AND THE LIQUIDATED DAMAGES CALCULATED HEREUNDER CONSTITUTE A REASONABLE APPROXIMATION OF THE HARM OR LOSS, AND NOT A PENALTY.

X. Notice

All notices, consents, approvals and requests required or permitted under this Framework Agreement shall be given in writing and shall be effective for all purposes if hand delivered or sent by (a) certified or registered United States mail, postage prepaid, return receipt requested or (b) expedited prepaid delivery service, either commercial or United States Postal Service, with proof of attempted delivery, addressed as follows (or at such other address and person as shall be designated from time to time by any Party hereto, as the case may be, in a written notice to the other Parties hereto in the manner provided for in this Section X):

To: The Authority

Vice President -- Marketing
New York Power Authority
123 Main Street
White Plains, NY 10601

To: ESD

Attention: Regional President
317 Washington Avenue, 2nd Floor
Watertown, New York 13601

With a copy to:

Attention: General Counsel
633 Third Avenue, 36th Floor
New York, NY 10017

To: Alcoa

Alcoa Inc.
Attention: Vice President -- Energy
390 Park Avenue
New York, NY 10022-4608

With a copy to:

Alcoa Inc.
Attention: General Counsel
201 Isabella St.
Pittsburgh, PA 15212

XI. Force Majeure

A. Events of Force Majeure. To the extent either Party is prevented by Force Majeure from carrying out, in whole or part, its obligations under the Operative Documents (the "Claiming Party"), the Claiming Party shall be excused from the performance of its obligations with respect to the Operative Documents (other than the obligation to make payments then due or becoming due with respect to performance prior to the Force Majeure). The non-Claiming Parties shall not be required to perform or resume performance of their obligations to the Claiming Party corresponding to the obligations of the Claiming Party excused by Force Majeure. Failure to perform in whole or in part because of the occurrence of an event of Force Majeure shall not constitute a default hereunder or subject a Party to liability for any resulting loss or damage. The Parties agree to use their respective reasonable efforts to cure any event of Force Majeure to the extent that it is reasonably possible to do so, it being understood that no Party shall be required to make any concession or grant any demand or request in order to bring to an end any strike, lockout or other industrial disturbance where such course is deemed inadvisable in its sole discretion. Upon the occurrence of an event of Force Majeure, the Claiming Party shall promptly notify the other non-Claiming Parties hereto of such events and shall specify in reasonable detail the facts constituting such events of Force Majeure.

B. "Force Majeure" Definition. "Force Majeure" means strikes or other labor troubles; shortage of labor, transportation, raw materials, energy sources, or failure of usual means of supply; fire; flood; war, declared or undeclared; insurrection; riots, acts of God or the public enemy; accidents to or breakdown or mechanical failure of machinery or equipment

caused by an event of Force Majeure; “uncontrollable forces” as defined in Section 454.3(c) of the Rules; or any other cause whatsoever whether or not of any nature of character mentioned above which is beyond the reasonable control of the affected Party and which affects the performance by the affected Party of the whole or part of its obligations under this Framework Agreement. For the avoidance of doubt, Force Majeure shall not include (i) increased costs of performance or decline in revenues, including price disruption or deterioration in Alcoa’s sale markets; (ii) Alcoa’s inability economically to use the Electric Service; (iii) defaults or non-performance by contractors or suppliers unless caused by Force Majeure; or (iv) unavailability of financing. Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment by NYISO unless such curtailment is due to Force Majeure.

C. Force Majeure Remedy. In the event Alcoa is required to interrupt, suspend or limit production at the West Plant as a result of Force Majeure, the Authority may suspend or reduce scheduled Electric Service, as appropriate. If Alcoa, as the result of Force Majeure, temporarily reduces Full Time Employees at the West Plant below the Base Employment Level, then for each month during which Alcoa is not meeting the Base Employment Level as a result of such Force Majeure event, ESD shall be entitled to reduce its disbursements under the ESD Grant Agreement proportionally based upon the number of Full-Time Employees by which Alcoa is below the Base Employment Level.

XII. Miscellaneous

A. Applicable Law: THIS FRAMEWORK AGREEMENT SHALL BE GOVERNED AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT REFERENCE TO PRINCIPLES OF CONFLICTS OF LAW OTHER THAN SECTIONS 5-1401 AND 5-1402 OF THE NEW YORK GENERAL OBLIGATIONS LAW AND TO THE EXTENT THAT SUCH LAWS ARE NOT INCONSISTENT WITH THE FERC LICENSE.

B. Successors and Assigns: This Framework Agreement shall be binding upon, shall inure to the benefit of, and may be performed by, the legal successors and assigns of either Party hereto; provided, however, that (i) no Party may assign, transfer or convey, directly or indirectly, their rights in and under this Framework Agreement except as expressly permitted herein and not otherwise prohibited by the other Operative Documents; and (ii) this Framework Agreement may not be assigned or transferred by any receiver, liquidator or bankruptcy trustee in the event of the bankruptcy or insolvency of any Party. Notwithstanding the foregoing, the Parties agree to the transfer, novation and/or assignment of Alcoa’s rights and obligations under this Framework Agreement to the Upstream Company or its affiliates in connection with or in anticipation of the Separation.

C. Previous Agreements: This Framework Agreement and the other Operative Documents shall constitute the sole and complete agreement of the Parties hereto with respect to the transactions contemplated hereby and thereby, and all prior agreements among or between the Parties, whether oral or written, including but not limited to the 2009 Agreement, the 2011 Supplemental Agreement and the 2014 Supplemental Agreement, are superseded by the terms of this Framework Agreement and the other Operative Documents. No modifications of this

Framework Agreement shall be binding upon the Parties hereto or unless such modification is in writing and is signed by each of them.

D. Conflict. The Parties agree and acknowledge that this Framework Agreement provides the overall framework for the understandings of the Parties that collectively form the transactions contemplated herein and by the other Operative Documents. In the event of any conflict between the provisions of this Framework Agreement and (x) the provisions of the Power Supply Agreement, then the Power Supply Agreement shall control; or (y) the provisions of the ESD Grant Agreement, then the provisions of the ESD Grant Agreement shall control.

E. Severability: If any term or provision of this Framework Agreement or the application thereof to any person or circumstance shall to any extent be invalid or unenforceable, the remaining terms and provisions of this Framework Agreement, or the application of such terms or provisions to the person or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Framework Agreement shall be valid and be enforced to the fullest extent permitted by law, provided, however, that in the event enforcement of this Framework Agreement in the absence of such invalid or unenforceable provision would deprive a party of a material element of its original bargain, the parties will negotiate in good faith a reformation of this Framework Agreement to reflect as nearly as possible the original intent of the parties in the absence of such provision.

F. No Third Party Beneficiaries: The terms of this Framework Agreement may only be enforced by the Parties hereto and their successors and permitted assigns and are not intended to create rights in any third party not a party hereto. This Framework Agreement may be amended by the Parties without the consent of any third party.

G. Headings: The Section headings of this Framework Agreement are included herein for convenience of reference only and shall not constitute a part of this Framework Agreement for any other purpose.

H. No Joint Venture, Partnership or Agency. Nothing herein shall constitute any Party the agent, partner or joint venturer of any other Party, and no Party is authorized to make or accept any offer or incur any obligation on behalf of another Party.

I. Counterparts. This Framework Agreement may be executed in any number of counterparts, each of which will be an original, with the same effect as if the signatures thereto were upon the same instrument.

APPENDIX A

Separation Packages

Hourly Voluntary Separation Package (Pending USW Approval):

Hourly employees who, if eligible, elect to retire from Alcoa will receive an Enhanced Pension Benefit

- A provision that opens the pension window to increase the number of employees eligible for retirement
- A \$400 per month addition to the employees' pension payment until age 62
- Lump sum payment equal to \$10,000 plus \$400 per year of service

Hourly employees who elect to leave Alcoa but are not immediately eligible to retire will receive a lump sum payment equal to \$10,000 plus \$400 per year of service.

Hourly employees who accept a transfer to another Customer location are eligible for relocation benefits.

Hourly Involuntary Separation Package:

Hourly employees who are laid off are eligible for the following benefits.

- Supplemental Unemployment Benefit (SUB-pay) which equates to 28 hours of weekly pay (net of unemployment pay for 26 weeks) to employees for a time period based on their seniority, subject to labor agreement terms:
 - at least 2 years but less than 10 years of seniority - 52 weeks maximum
 - at least 10 years but less than 20 years of seniority - 78 weeks maximum
 - 20 or greater years of seniority - 104 weeks maximum
- Recall rights
- Health care benefits for a time period depending on seniority
 - at least 2 years but less than 10 years of seniority - 1 year
 - 20 or greater years of seniority — 2 years
- Career services will be offered

Salaried Voluntary Separation Package:

Salaried employees who elect to retire or leave Alcoa will receive a lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks. Salaried employees who accept a transfer to another Customer location are eligible for relocation benefits.

Salaried Involuntary Separation Package:

Salaried employees who are involuntarily separated from Alcoa will receive

- A lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks
- Health care benefits for one year
- Career counseling services

APPENDIX B

Liquidated Damages pursuant to Section VII.

Year	Termination in Quarter	Total LDs \$ (m)	NYPAs share LDs \$ (m)	ESD share LDs \$ (m)
2016	1	40	20	20
	2	37	18.5	18.5
	3	34	17	17
	4	31	15.5	15.5
2017	1	28	14	14
	2	25	12.5	12.5
	3	22	11	11
	4	19	9.5	9.5
2018	1	16	8	8
	2	13	6.5	6.5
	3	10	5	5
	4	7	3.5	3.5
2019	1	4	2	2

SCHEDULE 1

Form of Power Supply Agreement

SCHEDULE 2

Form of ESD Grant Disbursement Agreement

In witness whereof, the Parties hereto have executed this Framework Agreement as of the date hereof.

AGREED:

ALCOA INC.

BY:  _____

Title: President Global Primary Products

Date: 12-18-2015

(Seal)

Attest by:  _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

By: _____

Title: President and Chief Executive Officer

Date: _____

(Seal)

Attest by: _____

AGREED:

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d/b/a EMPIRE STATE DEVELOPMENT

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

In witness whereof, the Parties hereto have executed this Framework Agreement as of the date hereof.

AGREED:

ALCOA INC.

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

By: Gil C. Quigley

Title: President and Chief Executive Officer

Date: 12 / 10 / 2015

(Seal)

Attest by: Reena Johnson

AGREED:

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d/b/a EMPIRE STATE DEVELOPMENT

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

In witness whereof, the Parties hereto have executed this Framework Agreement as of the date hereof.

AGREED:

ALCOA INC.

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

By: _____

Title: President and Chief Executive Officer

Date: _____

(Seal)

Attest by: _____

AGREED:

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d/b/a EMPIRE STATE DEVELOPMENT

BY: 

Title: ESD - VP - LOANS & GRANTS

Date: 12/18/15

(Seal)

Attest by: Eileen McEvoy
Corporate Secretary

POWER AUTHORITY OF THE STATE OF NEW YORK

30 South Pearl Street
10th Floor
Albany, New York 12207-3425

AGREEMENT FOR THE SALE
OF FIRM HYDROELECTRIC POWER AND ENERGY FROM
THE ST. LAWRENCE-FDR POWER PROJECT
TO ALCOA INC.

Service Tariff No. AL – 1 - Electric Service Tariff for Alcoa Inc. Firm Hydroelectric Power
Service

[DATE]

POWER AUTHORITY OF THE STATE OF NEW YORK

30 South Pearl Street, 10th Floor
Albany, New York 12207-3425

**AGREEMENT FOR THE SALE
OF FIRM HYDROELECTRIC POWER AND ENERGY FROM
THE ST. LAWRENCE-FDR POWER PROJECT
TO ALCOA INC.**

Alcoa Inc. ("Alcoa" or "Customer") hereby enters into this Agreement with the Power Authority of the State of New York ("Authority" or "NYPA," and collectively with Customer, the "Parties") for the sale of firm power and energy for its facilities at Park Avenue East ("West Plant"), Massena, New York 13662 as follows:

WHEREAS, the Authority and Alcoa, in or around February 2009, entered into a contract entitled "Agreement for the sale of Firm and Interruptible Hydroelectric Power and Energy From the St. Lawrence-FDR Power Project to Alcoa Inc." (the "2009 Agreement");

WHEREAS, the Authority and Alcoa, in or around January 2011, entered into an amendment entitled "First Supplemental Agreement Modifying Certain Agreements and Understandings Between the Parties Regarding the Sale of Hydroelectric Power and Energy" (the "2011 Supplemental Agreement") which, among other things, modified the 2009 Agreement;

WHEREAS, the Authority and Alcoa, in or around March 2014, entered into an amendment entitled "Supplemental Agreement Further Modifying the 2009 Agreement Between the Parties Regarding the Sale of Hydroelectric Power and Energy" (the "2014 Supplemental Agreement") which, among other things, further modified the 2009 Agreement;

WHEREAS, the Parties seek to replace the 2009 Agreement, as supplemented by the 2011 Supplemental Agreement and 2014 Supplemental Agreement, with a contract that will provide to Customer from the Authority's St. Lawrence-FDR Project 245,000 kW of Firm Power and Energy to be used by Customer at its - West Plant facilities as it sees fit; and

WHEREAS, such Allocation shall be sold by the Authority to Customer under this Agreement for the Sale of Firm Power and Energy ("Agreement"); and

WHEREAS, such Allocation is subject to the tariffs of the New York Independent System Operator, Inc. ("NYISO");

NOW THEREFORE, the Parties hereto agree as

follows: **I. Definitions**

- A. 2009 Agreement** has the meaning ascribed to it in the first "Whereas" clause.
- B. 2011 Supplemental Agreement** has the meaning ascribed to it in the second "Whereas" clause.
- C. 2014 Supplemental Agreement** has the meaning ascribed to it in the third "Whereas" clause.
- D. Agreement** means this Agreement also known as the Power Supply Agreement, which attaches and incorporates Service Tariff No. AL - 1.
- E. Allocation** means the allocation of Firm Power and Energy to Customer on the terms set forth herein.
- F. Authority or NYPA** is the Power Authority of the State of New York, doing business as New York Power Authority.
- G. Contract Demand** will be the amount set forth in Article II or such other amount as may be determined in accordance with the provisions of this Agreement.
- H. Customer** is Alcoa.
- I. Electric Service** is Firm Power and Energy sold to Customer in accordance with this Agreement and applicable Service Tariffs and Rules.
- J. Firm Power and Energy** is power and associated energy from the Project as provided in Service Tariff No. AL - 1, and allocated by Authority for business use as Preservation Power pursuant to Section 1005 (13) of the New York Public Authorities Law ("PAL").
- K. FERC** means the Federal Energy Regulatory Commission (or any successor organization).
- L. FERC License** means the license issued by FERC to Authority for the continued operation and maintenance of the Project, pursuant to Section 15 of the Federal Power Act.
- M. Force Majeure** has the meaning set forth in Section XIV.

- N. **Hydro Projects** is a collective reference to the Project (defined below) and Authority's Niagara Project, FERC Project No. 2216.
- O. **NYISO** means the New York Independent System Operator or any successor organization responsible for the transmission and the reliable supply of electricity in the State of New York.
- P. **Project** means Authority's St. Lawrence-FDR Project, FERC Project No. 2000.
- Q. **RECs** has the meaning set forth in Section II.
- R. **Rules** are the applicable provisions of Authority's Rules and Regulations for Power Service (Part 454 of Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York) as they are modified from time to time.
- S. **Service Tariff** is a schedule or tariff of Authority establishing rates and other conditions for sale of Electric Service to Customer, including Service Tariff No. AL - 1 attached hereto as Schedule B, which may be modified from time to time.
- T. **TSC** is the "NYPA Transmission Service Charge", authorized under the NYISO Open Access Transmission Tariff and applicable to deliveries of Electric Service to Customer.
- U. **Unforced Capacity** shall have the same meaning as set forth in the NYISO Market Services Tariff, as it may be modified from time to time.

Other capitalized terms herein that are not otherwise defined in this Agreement shall have the meaning set forth in Service Tariff or the Rules.

II. Electric Service to be Provided

- A. Contract Demand. Authority shall provide Electric Service pursuant to Service Tariff No. AL - 1 ("ST AL - 1") for Firm Power and Energy to enable the Customer to receive its Allocation from the Project, in the amount set forth below, which amount shall be the Contract Demand:

245,000 Kilowatts of Firm Power and Energy

As part of the Allocation, Authority shall provide Unforced Capacity in amounts necessary to meet Customer's NYISO Unforced Capacity obligations associated with the foregoing Allocation of Firm Power and Energy in accordance with the rules and tariffs of the NYISO. Neither Ancillary Services (as defined in the rules and tariffs of the NYISO), nor "green" attributes or renewable energy credits (collectively referred to herein as "RECs," as may be hereinafter defined and as

modified from time to time by the New York State Public Service Commission or other agency having jurisdiction over such matters) are included in such

Allocation. Authority retains for its own use and benefit any such RECs associated with that portion of the Project that supports the Allocation; provided, however, that: (1) should Customer be required by federal or state law, rule or regulation to secure RECs in connection with the operation of the West Plant; and (2) such RECs are deemed transferable under applicable federal or state law, rule or regulation, then Authority shall make available such RECs to Customer on a basis consistent with the policies adopted by Authority's Trustees for all similarly situated customers.

- B. Delivery Points. At 115,000 Volts at the points of interconnection of Customer's transmission lines to the Barnhart Island Switchyard of Authority at the West Plant, Massena, New York, or at such other points and voltages as agreed between Customer and Authority.
- C. Reduction of Contract Demand. The foregoing Contract Demand may be reduced by Authority if the amount of Firm Power and Energy available for sale from the Project is reduced as required to comply with any unstayed ruling, order or decision of any regulatory or judicial body of competent jurisdiction. Any such reduction in the Contract Demand made by Authority under this subparagraph shall be in proportion to the overall reduction in the aggregate contract demands of hydroelectric customers sold by Authority from the Project.
- D. Authority and Customer shall cooperate in any relocation or installation of transformers or other related facilities servicing Customer's plant that either Party reasonably deems necessary or desirable. The costs of any such relocation or installation shall be the responsibility of Customer, except in cases where Authority seeks the relocation or installation; provided however, that Authority will, if requested by Customer, consider in good faith whether its other customers receive any substantial benefit from such relocation or installation. If NYPA determines that such substantial benefits exist, it shall negotiate in good faith with Customer regarding an alternative funding arrangement. In any event, NYPA shall not be obligated to agree upon an alternative funding arrangement.

III. Employment and Other Commitments; Liquidated Damages

Schedule A to this Agreement entitled "Employment and Separation Package Commitments, Customer Curtailment, Customer Termination and Liquidated Damages" is attached to and made a part of this Agreement ("Schedule A").

IV. Rules, Regulations and Service Tariff

The Rules and the Service Tariff are hereby incorporated into this Agreement with the same force and effect as if herein set forth at length. In the event of any

inconsistencies, conflicts or differences between the provisions of the Service Tariff and the Rules, the provisions of the Service Tariff shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of this Agreement and the Service Tariff, the provisions of this Agreement shall govern. Except as may be provided under Section V.D., below, Authority shall provide at least thirty (30) days prior written notice to Customer of any proposed change in the Rules or Service Tariff, but in no event shall Authority provide less notice than that provided to similarly affected customers within New York State.

V. Power and Energy Rates, Other Charges and Bond Covenant

- A. Base Rates: Firm Power and Energy associated with the Allocation shall be sold to Customer hereunder at rates for base commodity and TSC determined in accordance with ST AL - 1 attached hereto.
- B. Customer agrees to compensate Authority for all transmission costs incurred as set forth in ST AL - 1. Such charges or costs shall be in addition to the charges recovered through the base rates in ST AL - 1 for base commodity and TSC. Customer understands that delivery of the Allocation will be made over transmission facilities under the control of the NYISO, including those owned by Customer. Unless Customer provides Authority sixty (60) days written notice otherwise, Authority will act as the Load Serving Entity ("LSE") with respect to the NYISO, or arrange for another entity to do so on its behalf. Customer agrees and understands that it shall be responsible to Authority for all costs incurred by Authority with respect to the Allocation for the services established in the NYISO's applicable tariffs, as set forth in ST AL - 1, whether or not such charges are transmission-related. Such charges or costs shall be in addition to the charges recovered through the base rates in ST AL - 1 for base commodity and TSC.
- C. To the extent Authority incurs any taxes, assessments or other charges imposed by third parties associated with or attributable to the Allocation, Customer agrees to compensate Authority for all such costs incurred as set forth in ST AL - 1. Such charges or costs shall be in addition to the charges recovered through the base rates in ST AL - 1 for base commodity and TSC.
- D. Notwithstanding any provision of this Agreement to the contrary, the power and energy charges shall be subject to increase by Authority at any time upon 30 days prior written notice to Customer if, after consideration by Authority of its legal obligations, the marketability of the output or use of the Project and Authority's competitive position with respect to other suppliers, Authority determines in its discretion that increases in rates obtainable from any other Authority customers will not provide revenues, together with other available Authority funds not needed for operation and maintenance expenses, capital expenses, and reserves, sufficient to meet all requirements specified in Authority's bond and note resolutions and covenants with the holders of its financial obligations. Authority shall use its best efforts to inform Customer at the earliest practicable date of its intent to increase

the power and energy charges pursuant to this provision. Any rate increase to Customer under this subsection shall be on a non-discriminatory basis as compared to other Authority customers after giving consideration to the factors set forth in the first sentence of this subsection. With respect to any such increase, Authority shall forward to Customer with the notice of increase, an explanation of all reasons for the increase, and shall also identify the sources from which Authority will obtain the total of increased revenues and the bases upon which Authority will allocate the increased revenue requirements among its customers. Any such increase in rates shall remain in effect only so long as Authority determines such increase is necessary to provide revenues for the purposes stated in the preceding sentences.

VI. Hydropower Curtailments and Substitute Energy

A. Firm Power and Energy. If hydraulic or hydrological conditions affecting the Hydro Projects require Authority to curtail the amount of Firm Power and Energy provided to Customer under this Agreement to an amount below such normal level, reductions shall be applied to all the firm power customers served from the Hydro Projects, including Customer, in proportion to their relative allocations of Firm Power and Energy from the Hydro Projects. Reductions as a percentage of the otherwise required Power and Energy deliveries will be the same for all firm Authority hydropower customers served from the Hydro Projects.

B. Authority will provide Substitute Energy to the Customer to replace the hydroelectricity that would otherwise have been supplied.

1. Billing for Substitute Energy. For each kilowatt-hour of Substitute Energy supplied by the Authority, in lieu of paying the base rates set forth in Section V.A. above, the Customer shall pay the Authority directly for: (a) the market cost of the Substitute Energy; and (b) all costs, including but not limited to any NYISO Charges and Taxes, the Authority incurs in connection with the provision of Substitute Energy. Billing and payment for Substitute Energy shall be governed by the Billing and Payments provision of Section 454.6 of the Rules and shall apply directly to the Substitute Energy service supplied to the Customer.

2. Substitute Energy Provision Effect on Contract. All other provisions of the Agreement shall continue in effect with Substitute Energy being delivered in the same manner as would have otherwise been the case.

VII. Billing

Billing shall be performed in accordance with ST AL - 1.

VIII. Term, Termination of Service and Early Termination

- A. Service under the Agreement shall commence on October 1, 2015 and continue until the earliest of (a) termination by Authority pursuant to Part 454 of the Rules upon required notice, (b) termination by Authority pursuant to default provisions as described in Schedule A, or (c) March 31, 2019. Authority may cancel service hereunder or modify the quantities of power and energy associated with the Allocation only (a) if such cancellation or modification is required to comply with any unstayed ruling, order or decision of any regulatory or judicial body of competent jurisdiction (including any licensing or re-licensing order or orders of the FERC or its successor agency), or (b) as otherwise expressly provided herein or in the Rules.
- B. Customer may, for any reason, reduce or terminate service at any time on written notice given to Authority no less than sixty days (60) in advance, subject to the payment of liquidated damages to Authority in accordance with Schedule A of this Agreement unless such reduction or termination is the result of Force Majeure or breach of this Agreement by Authority.
- C. In the event that this Agreement is terminated, the Parties agree that (i) the Framework Agreement dated December 18, 2015 shall be deemed terminated as of the same date and (ii) such termination of this Agreement and the Framework Agreement shall not trigger the payment of liquidated damages under either this Agreement or the Framework Agreement unless the termination results from Customer's default under the provisions of Schedule A.

For avoidance of doubt, (i) the liquidated damages remedies provided in this Agreement are intended to include similar recoveries provided in the Grant Disbursement Agreement between Customer and Empire State Development ("ESD") dated December 18, 2015 and the Framework Agreement dated December 18, 2015, and the Authority and ESD collectively shall be entitled to recover such damages in full together only once and shall not be entitled to any duplicative recoveries.

IX. Notification

Correspondence involving the administration of this Agreement shall be addressed as follows:

To: Authority

Vice President – Marketing
POWER AUTHORITY OF THE STATE OF
NEW YORK
123 Main Street

White Plains, NY 10601

To: Customer

Alcoa Inc.
Attention: Vice President --
Energy 390 Park Avenue
New York, NY 10022-4608

With a copy to:

Alcoa Inc.
Attention: General Counsel
201 Isabella St.
Pittsburgh, PA 15212

X. Applicable Law

This Agreement shall be governed by and construed in accordance with the laws of the State of New York to the extent that such laws are not inconsistent with the FERC License.

XI. Successors and Assigns, No Resale of Allocation

This Agreement shall be binding upon, shall inure to the benefit of, and may be performed by, the legal successors and assigns of either Party hereto. Customer announced on September 28, 2015 that its board of directors had approved a plan to separate into two independent, publicly-traded companies (the "Separation") consisting of: (1) a company that will consist of the five business units that today make up Global Primary Products (the "Upstream Company"), and (2) a company that will include Global Rolled Products, Engineered Products and Solutions, and Transportation and Construction Solutions (the "Value-Add Company"). The Authority consents to the transfer, novation and/or assignment of Customer's rights and obligations under this Agreement to the Upstream Company or its affiliates in connection with or in anticipation of the Separation. Subject to acceptance of all provisions of this Agreement by any successor or assignee, any assignment of this Agreement by Customer shall only be to another entity that will utilize the Allocation for the same purposes and same location as such Allocation is utilized by Customer. If Customer is unable to or does not use any portion of its Allocation for any period of time, then any such unused Firm Power and Energy (and all rights attendant thereto) shall be subject to Service Tariff provisions, including Minimum Monthly Capacity Charge, and shall revert to Authority for its exclusive use until utilized by Customer and Customer shall have no right to sell, transfer, assign, monetize or otherwise use such unutilized power and energy.

XII. Supplementary Provision

Section 454.2(c) of the Rules is inapplicable to this Agreement.

XIII. Previous Agreements and Communications

This Agreement shall constitute the sole and complete agreement of the Parties hereto with respect to the sale, transmission and delivery of the Allocation and supersedes all prior agreements between the Parties, whether oral or written, including but not limited to the 2009 Agreement, the 2011 Supplemental Agreement and the 2014 Supplemental Agreement, and all previous communications between the Parties hereto, either oral or written, with reference to said Allocation. No modifications of this Agreement shall be binding upon the Parties hereto or either of them unless such modification is in writing and is signed by a duly authorized officer of each of them. In the event of any conflict between the provisions of this Agreement and the provisions of that certain Framework Agreement executed by each of the Parties and dated as of December 18, 2015, the provisions of this Agreement shall control.

XIV. Force Majeure

A. Events of Force Majeure. To the extent either Party is prevented by Force Majeure from carrying out, in whole or part, its obligations under this Agreement (the "Claiming Party"), the Claiming Party shall be excused from the performance of its obligations with respect to this Agreement (other than the obligation to make payments then due or becoming due with respect to performance prior to the Force Majeure). The non-Claiming Party shall not be required to perform or resume performance of its obligations to the Claiming Party corresponding to the obligations of the Claiming Party excused by Force Majeure. Failure to perform in whole or in part because of the occurrence of an event of Force Majeure shall not constitute a default hereunder or subject a Party to liability for any resulting loss or damage. The Parties agree to use their respective reasonable efforts to cure any event of Force Majeure to the extent that it is reasonably possible to do so, it being understood that no Party shall be required to make any concession or grant any demand or request in order to bring to an end any strike, lockout or other industrial disturbance where such course is deemed inadvisable in its sole discretion. Upon the occurrence of an event of Force Majeure, the Claiming Party shall promptly notify the non-Claiming Party of such events and shall specify in reasonable detail the facts constituting such events of Force Majeure.

B. "Force Majeure" Definition. "Force Majeure" means strikes or other labor troubles; shortage of labor, transportation, raw materials, energy sources, or failure of usual means of supply; fire; flood; war, declared or undeclared; insurrection; riots, acts of God or the public enemy; accidents to or breakdown or mechanical failure of machinery or equipment caused by an event of Force Majeure; "uncontrollable forces" as defined in Section 454.3(c) of the Rules; or any other

cause whatsoever whether or not of any nature of character mentioned above which is beyond the reasonable control of the affected Party and which affects the performance by the affected Party of the whole or part of its obligations under this Agreement. For the avoidance of doubt, Force Majeure shall not include (i) increased costs of performance or decline in revenues, including price disruption or deterioration in Customer's sale markets; (ii) Customer's inability economically to use the Allocation; (iii) defaults or non-performance by contractors or suppliers unless caused by Force Majeure; or (iv) unavailability of financing. Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment by NYISO unless such curtailment is due to Force Majeure.

C. In the event Customer is required to interrupt, suspend or limit production at the West Plant as a result of Force Majeure, the Authority may suspend or reduce scheduled Electric Service, as appropriate.

XV. Severability and Voidability

If any term or provision of this Agreement shall be invalidated, declared unlawful or ineffective in whole or in part by an order of the FERC or a court of competent jurisdiction, such order shall not be deemed to invalidate the remaining terms or provisions hereof.

Notwithstanding the preceding paragraph, if any provision of this Agreement is rendered void or unenforceable or otherwise modified by a court or agency of competent jurisdiction, the entire Agreement shall, at the option of either Party and only in such circumstances in which such Party's interests are materially and adversely impacted by any such action, be rendered void and unenforceable by such affected Party.

XVI. Counterparts

This Agreement may be executed in any number of counterparts, each of which will be an original, with the same effect as if the signatures thereto were upon the same instrument.

XVII. Effectiveness of Agreement

This Agreement shall become effective upon execution by both Parties.

AGREED:

ALCOA INC. (CUSTOMER)

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

SCHEDULE A

EMPLOYMENT AND SEPARATION PACKAGE COMMITMENTS, CUSTOMER CURTAILMENT, CUSTOMER TERMINATION AND LIQUIDATED DAMAGES

Section I. Customer Commitments

A. West Plant: During the Term, Customer will continue smelter operations at the West Plant in Massena, New York.

B. Customer Employee Separation:

(1) Voluntary Separation. Customer expects that approximately eighty (80) to one hundred (100) employees will receive severance or early retirement benefits ("Employee Separation") at the West Plant and Customer agrees to implement this Employee Separation by first offering a voluntary separation package to all employees, pursuant to the plan attached hereto as Appendix 1 to this Schedule A ("Voluntary Separation Package").

(2) Involuntary Separation. Customer will not use the involuntary separation methods described in Appendix 1 of this Schedule A ("Involuntary Separation Package", and together with the Voluntary Separation Package, the "Separation Packages") until employees have been given a reasonable period of time, and in no event less than twenty-one (21) days, to elect Voluntary Separation, provided that provided that the resultant employment level at the West Plant remains compliant with the employment commitment set forth in Section I (C) below.

C. Customer Employment Commitments: Once an employment level of six hundred (600) Full-Time Employees at the West Plant (the "Base Employment Level") is reached pursuant to the separation programs described in Section I (B) above, Customer shall not reduce employment further by utilizing voluntary separation packages or involuntary separation at the West Plant. As used herein, "Full-Time Employee" means a full-time, permanent, private-sector employee on Customer's payroll, working at the West Plant for a minimum of thirty-five hours per week for not less than four consecutive weeks who is entitled to receive the usual and customary fringe benefits extended by Customer to other employees with comparable rank and duties. The requirement that a Full-Time Employee shall be employed for not less than four consecutive weeks shall not apply to any employee hired to fill a Full-Time Employee vacancy resulting from a termination for cause.

The Authority acknowledges that following the Separation, all Upstream Company and Value-Add Company employees located at any Customer facility in Massena, New York will continue to be counted toward the Base Employment Level commitment of Customer set forth in this Agreement.

D. Maintenance of Base Employment Level. In the event that Customer employment at the West Plant falls below the Base Employment Level at any time due

to termination of employees for cause, Customer promptly, and in any event in not more than thirty (30) Business Days, will fill such Full-Time Employee vacancies with qualified persons following Customer's usual practice, by new hires, recall of previous employees who were involuntarily separated subject to recall rights or transfers of employees (provided such transfers are not from facilities located in New York State) having wages and benefits equivalent to existing workers at the West Plant of equivalent seniority.

E. Curtailed Locations. The Parties acknowledge that, on November 2, 2015, Customer announced that it would curtail its Intalco and Wenatchee primary aluminum smelters in Washington State and would partially curtail alumina refining capacity at its Pt. Comfort, Texas facility (the "Curtailed Locations"). Customer agrees that the Separation Packages to be offered to employees of the West Plant will be no less favorable to the employees than the voluntary and involuntary separation packages to be offered by Customer to employees of the Curtailed Locations. From the effective date of this Agreement until March 31, 2016, should Customer offer voluntary or involuntary separation packages to employees of any of the Curtailed Locations which are more favorable to the employees than the Separation Packages described in Appendix 1 of this Schedule A, Customer will amend the Separation Packages offered to the West Plant employees so that the resulting Separation Packages are equivalent to the separation packages offered to the employees of such Curtailed Locations.

F. Re-Training and Job Placement Services: Customer agrees to work with the New York State Department of Labor to ensure that all re-employment and training services and programs available through New York State and/or through New York State-sponsored programs will be provided to Customer employees affected by the Employee Separation. Such services will include job referral and career counseling services and résumé preparation as well as any job re-training programs which may be made available through New York State or the federal government.

G. Enhanced Voluntary Separation Benefit for Hourly Employees: Customer agrees that the Voluntary Separation Package to be offered to hourly employees of the West Plant will contain enhanced financial benefits and broader retirement eligibility when compared to the standard benefits to which the hourly employees of the West Plant would otherwise be entitled to had Customer not offered the Voluntary Separation Package.

H. Employment Records and Reports: A record shall be provided on a quarterly basis to Authority, of the total number of Full-Time Employees at Customer's facilities located at Massena, NY for each month, as reported to the United States Department of Labor (or as reported in such other record as agreed upon by Authority and the Customer). Such report shall be certified to be correct by the plant manager or such other person authorized by the Customer to prepare and file such report and shall be provided to Authority on or before the 15th day of the month following the end of the most recent calendar quarter. Authority shall have the right to examine and audit on reasonable advance written notice all non-confidential written and electronic records

and data concerning employment levels including, but not limited to, personnel records and summaries held by the Customer and its affiliates relating to employment in New York State.

I. Communications: The Parties agree to coordinate the timing and content of any public communications regarding this Agreement and the transactions contemplated hereby and Customer agrees that, prior to December 31, 2018, it will not make any announcements or other communications to the public, investors, or employees regarding any planned curtailment or employment reduction at the West Plant (except the Employee Separations described in Section I (C) above). Customer will use its best efforts to maintain the confidentiality of any planned curtailment or employment reduction at the West Plant prior to December 31, 2018 (the "Confidential Curtailment Information") and will not disclose to any person such Confidential Curtailment Information except (a) as reasonably required in planning for the orderly and prudent operation, curtailment or closure of the West Plant following the Term hereof, provided that any communications made to third parties shall be subject to a confidentiality agreement between Alcoa and such third party; (b) as required by any applicable law, governmental regulations, subpoena or other written demand made in accordance with applicable law or as required in connection with any legal proceedings arising from or in connection with this Agreement; or (c) to any legal advisor, accountant or auditor (but labeled "CONFIDENTIAL" if appropriate with any applicable claim of exemption from public disclosure pursuant to the New York Freedom of Information Law).

Section II. Liquidated Damages

In the event that (i) the Authority terminates this Agreement as a result of Customer's material breach of one or more of the covenants set forth in Section I (A), (B), (C), (D), (E) or (I) of this Schedule A and failure to cure such breach within thirty (30) days following receipt of written notice thereof from Authority or (ii) Customer terminates this Agreement for reasons other than Force Majeure or material breach by the Authority, then Customer shall pay to Authority, promptly upon demand, liquidated damages on a sliding scale as set forth in Appendix 2 of this Schedule A ("Liquidated Damages"). Such Liquidated Damages paid by Customer shall constitute full and final compensation to the Authority and ESD and no other payment or charge, including demand charges, shall be payable by Customer as a result of such termination, whether under this Agreement, the Framework Agreement dated December 18, 2015 or the ESD Grant Agreement dated December 18, 2015. Notwithstanding the foregoing, Liquidated Damages are not in lieu of (i) any outstanding payables or charges due under the Power Supply Agreement for electric capacity and energy provided by the Authority, including associated charges for transmission, taxes or other NYISO assessments, prior to termination or (ii) following termination of the Power Supply Agreement for any reason, any outstanding payable or charges for market rate charges for any electric capacity and energy provided by the Authority, including associated charges for transmission, taxes or other NYISO assessments, following such termination, which amounts shall separately remain due and payable.

APPENDIX 1 of SCHEDULE A

Separation Packages

Hourly Voluntary Separation Package (Pending USW Approval):

Hourly employees who, if eligible, elect to retire from Customer will receive an Enhanced Pension Benefit

- A provision that opens the pension window to increase the number of employees eligible for retirement
- A \$400 per month addition to the employees' pension payment until age 62
- Lump sum payment equal to \$10,000 plus \$400 per year of service

Hourly employees who elect to leave Customer but are not immediately eligible to retire will receive a lump sum payment equal to \$10,000 plus \$400 per year of service.

Hourly employees who accept a transfer to another Customer location are eligible for relocation benefits.

Hourly Involuntary Separation Package:

Hourly employees who are laid off are eligible for the following benefits.

- Supplemental Unemployment Benefit (SUB-pay) which equates to 28 hours of weekly pay (net of unemployment pay for 26 weeks) to employees for a time period based on their seniority, subject to labor agreement terms:
 - at least 2 years but less than 10 years of seniority - 52 weeks maximum
 - at least 10 years but less than 20 years of seniority - 78 weeks maximum
 - 20 or greater years of seniority - 104 weeks maximum
- Recall rights
- Health care benefits for a time period depending on seniority
 - at least 2 years but less than 10 years of seniority - 1 year
 - 20 or greater years of seniority — 2 years
- Career services will be offered

Salaried Voluntary Separation Package:

Salaried employees who elect to retire or leave Customer will receive a lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks. Salaried employees who accept a transfer to another Customer location are eligible for relocation benefits.

Salaried Involuntary Separation Package:

Salaries employees who are involuntarily separated from Customer will receive

- A lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks
- Health care benefits for one year
- Career counseling services

APPENDIX 2 of SCHEDULE A

Liquidated Damages pursuant to Section II of this Schedule A ("Default")

Year	Quarter	Total LDs \$ (m)
2016	1	40
	2	37
	3	34
	4	31
2017	1	28
	2	25
	3	22
	4	19
2018	1	16
	2	13
	3	10
	4	7
2019	1	4

Schedule B

Service Tariff No. AL – 1



POWER AUTHORITY OF THE STATE OF NEW YORK
30 SOUTH PEARL STREET
ALBANY, NY 12207

Electric Service Tariff for Alcoa Inc.
Firm Hydroelectric Power Service

Service Tariff No. AL – 1

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

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Schedule of Rates for Firm Hydroelectric Power Service

I. Applicability

This Service Tariff is applicable to the sale of firm hydroelectric power service produced by the Authority's St. Lawrence-FDR Project to Alcoa Inc. ("Alcoa" or "Customer") and as further defined in the Agreement.

II. Frequently Used Abbreviations and Terms

- kW kilowatt(s)
- kWh kilowatt-hour(s)
- MWh megawatt-hour(s)
- NYISO New York Independent System Operator, Inc. or any successor organization
- OATT NYISO Open Access Transmission Tariff
- PAL New York Public Authorities Law
- UCAP Unforced Capacity

Agreement: An executed agreement between the Authority and the Customer setting forth the terms and conditions applicable to the allocation and sale of firm hydroelectric power to the Customer, including an agreement entitled "Agreement for the Sale of Firm Hydroelectric Power and Energy from the St. Lawrence-FDR Power Project to Alcoa Inc."

Aluminum Price: Aluminum price derived as a reference point for assigning applicable base rates and is calculated as the sum of the London Metal Exchange and Midwest Aluminum Premium reference prices as further defined herein.

Authority: The Power Authority of the State of New York, a corporate municipal instrumentality and a political subdivision of the State of New York created pursuant to Chapter 772 of the New York Laws of 1931 and existing and operating under Title 1 of Article 5 of the PAL, also known as the "New York Power Authority" and "NYPA."

Billing Energy: This term has the meaning provided for in Section III.G.1 of this Service Tariff.

Billing Period: Any period of approximately thirty (30) days, generally ending with the last day of each calendar month but subject to the billing cycle requirements.

Capacity Tag: Capacity (kW) as expressed by the NYISO as the Unforced Capacity ("UCAP") obligation for a capability period. The UCAP obligation is inclusive of any adjustments for reserves needed to meet the installed reserve margin as required by the NYISO.

Contract Demand: This term has the meaning provided for in the Agreement.

Electric Service: The power and energy provided to the Customer in accordance with the Agreement, this Service Tariff and the Rules.

Firm Power and Energy: This term has the meaning provided for in Section IV.B. of this Service Tariff.

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Hydro Projects: Collective reference to the Project and Authority's Niagara Project, FERC Project No. 2216.

London Metal Exchange or LME: Center for industrial metals trading used as reference to derive Aluminum Prices within this Service Tariff. Specifically, the LME component used in calculating the Aluminum Price for a particular month (M) shall be the average LME Cash Buyer's Price for the month prior (M-1).

Load Serving Entity or LSE: This term has the meaning provided for in the Agreement.

Load Factor Share: Methodology used to determine firm hydroelectric Billing Energy share of the total Native System Load as further defined in Section III.G.1 of this Service Tariff.

Midwest Aluminum Premium or MWP: Midwest U.S. Premium price published by Platt's Metals Week, converted to dollars per metric tonne (\$/metric tonne), in addition to LME aluminum price, used to derive Aluminum Prices within this Service Tariff. Specifically, the MWP component used in calculating the Aluminum Price for a particular month (M) shall be the average MWP for the month prior (M-1).

Minimum Monthly Capacity Charge: This term has the meaning provided for in Section III.D.1 of this Service Tariff.

Native System: Customer's electric system at Park Avenue East ("West Plant"), Massena, New York 13662.

Native System Load: Total consumption within the boundaries of the Customer's electric system, as determined by the Authority's revenue-grade metering equipment. This includes incoming bilateral energy, market purchases taken from the transmission grid, and internal generation. The coincident sum of all incoming power and internal generation minus the outgoing power being sent back to the transmission grid will be considered the Native System Load and will be the value used to calculate the monthly Native System Load Factor.

Native System Load Factor: Percent value calculated every Billing Period as follows: (Native System Load) ÷ [(Peak Demand) * (# of Hours in the Billing Period)].

NYISO Tariffs: The tariffs of the NYISO, including the NYISO OATT, as such tariffs are amended and in effect from time to time.

Peak Demand: The highest coincident sixty (60) minute integrated demand of the Native System Load measured during the Billing Period and expressed in kW.

Project: The Authority's St. Lawrence-FDR Power Project.

Rural/Domestic Rate: Rates charges by the Authority for the sale of hydroelectricity for the benefit of rural and domestic customers receiving service in accordance with the Niagara Redevelopment Act, 16 U.S.C. § 836(b)(1) and PAL §1005(5).

Rules: The Authority's rules and regulations set forth in Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York as may be modified from time to time by the Authority.

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Service Tariff: This service tariff, denominated as "Electric Service Tariff for Alcoa Inc. Firm Hydroelectric Power Service, Service Tariff No. AL - 1," as amended from time to time by the Authority.

Substitute Energy: Energy the Authority procures and sells to the Customer to replace Firm Power and Energy that would otherwise have been sold to the Customer but for a curtailment made in accordance with the Agreement and this Service Tariff.

Taxes: This term has the meaning provided for in Section III.D.2 of this Service Tariff.

Transmission Service Charge or TSC: The NYPA Transmission Service Charge as provided for and defined in the NYISO OATT.

Additional terms are defined in the text of this Service Tariff.

Unless otherwise indicated, all other capitalized terms and abbreviations used but not defined in this Service Tariff shall have the meaning as set forth in the Agreement. In the event that publication of any index price utilized in this Tariff, including the LME Cash Buyer's Price or Platt's Midwest Aluminum Premium, is discontinued or the methodology for determination thereof is substantially revised, the Parties will meet and discuss in good faith the amendment of the Tariff by substitution of an alternative index or other alternative means of determination of pricing most closely approximating their original intent.

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

III. Base Rates and Related Matters

A. Base Rates

1. Subject to the other provisions of this Service Tariff, the base rates to be charged to the Customer by the Authority shall be tied directly to Aluminum Prices as follows:

Aluminum Price (\$/metric ton)	Base Rate (\$/MWh)
Below 1,500	12.25
1,500 - 1,799	12.25
1,800 - 1,899	14.00
1,900 - 1,999	15.75
2,000 - 2,099	17.50
2,100 - 2,199	19.25
2,200 - 2,299	21.00
2,300 - 2,399	22.75
2,400 - 2,499	24.50
2,500 - 2,599	26.25
2,600 - 2,699	28.00
2,700 - 2,799	29.75
2,800 - 2,899	31.50
2,900 - 2,999	33.25
3,000 - 3,099	35.00
3,100 - 3,199	36.75
3,200 - 3,299	38.50
3,300 - 3,399	40.25
3,400 and above	42.00

The base rates, as set forth above, include a monthly base rate for commodity, and a base Transmission Service Charge valued at \$1.75/MWh at a ninety-eight (98) percent load factor, both of which are subject to monthly billing adjustments for full cost recovery at the Customer Native System Load Factor, as per Sections III.E. and III.C. of this Service Tariff.

B. NYISO Transmission and Related Charges ("NYISO Charges")

The Customer shall compensate the Authority for the following NYISO Charges assessed on the Authority for services provided by the NYISO pursuant to the NYISO Tariffs associated with providing Electric Service to the Customer:

1. Charges for OATT Rate Schedules 1 through 9 and any new ancillary services and/or rate schedules as may be provided in accordance with the NYISO Tariffs;
2. Transmission Usage Charges ("TUC") which are Marginal Losses and Congestion costs as provided for in the NYISO Tariffs;
3. The New York Power Authority "Transmission Adjustment Charge" or "NTAC" as provided for in the NYISO Tariffs;
4. NYISO wide uplift as provided for in the NYISO Tariffs;
5. Any and all other charges, assessments, or other amounts associated with delivery of Firm Power and Energy sold to the Customer by the Authority, or otherwise associated

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with the Authority's responsibilities as a Load Serving Entity for the Customer, that the NYISO assesses on the Authority under the provisions of the NYISO Tariffs; and

6. Any charges assessed on the Authority with respect to the provision of Electric Service to the Customer for facilities needed to maintain reliability and incurred in connection with the NYISO's Comprehensive System Planning Process (or similar reliability-related obligations incurred by the Authority with respect to Electric Service to the Customer), applicable tariffs, or required to be paid by the Authority in accordance with law, regardless of whether such charges are assessed by the NYISO or another third party.

The NYISO Charges, if any, incurred by the Authority on behalf of the Customer, are in addition to the Authority's base rates that are charged to the Customer in accordance with other provisions of this Service Tariff.

The method of billing NYISO Charges to the Customer will be based on the Authority's discretion.

C. Transmission Charges and Monthly TSC Reconciliation

The Customer shall compensate the Authority for all transmission costs incurred by the Authority with respect to the Allocation, including such costs that are charged pursuant to the NYISO Tariffs. Any difference between TSC costs recovered through the base rates as set forth in Section III.A.1 of this Service Tariff and actual TSC costs shall be reconciled on a monthly basis by the Authority. The difference of any under collection or over collection of the TSC costs shall be passed through to the Customer on the bill.

D. Other Charges

The base rates do not reflect any of the charges discussed in this Section III.D. (collectively, "Other Charges"). The Customer shall be responsible for payment of such Other Charges as a separate charge from base rates to the extent they apply to the Customer.

1. Minimum Monthly Capacity Charge

If in any given month the Customer's monthly Peak Demand (kW) is less than the Capacity Tag, the Customer shall be subject to a Minimum Monthly Capacity Charge equal to the difference between the Customer's monthly Peak Demand (kW) and the Capacity Tag as expressed by the NYISO for the applicable month, times the applicable NYISO locational capacity spot auction market rate.

Such Minimum Monthly Capacity Charge shall be in addition to all other charges provided for in this Service Tariff, including but not limited to, charges included in the base rates and NYISO Charges as provided for in this Service Tariff.

2. Taxes

The Authority will charge and collect from the Customer all local, state and federal taxes, assessments or other charges mandated by local, state or federal agencies or authorities that are levied on the Authority or that the Authority is required to collect from the Customer ("Taxes") if and to the extent such Taxes are not recovered by the Authority pursuant to another provision of this Service Tariff.

3. Curtailments and Substitute Energy

Firm Power and Energy is subject to curtailment as provided for in the Agreement and Section IV.C. of this Service Tariff. The Authority shall provide Substitute Energy to the

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Customer, and the Customer shall pay the Authority for Substitute Energy, in accordance with the Agreement and Section IV.C. of this Service Tariff.

E. Niagara and St. Lawrence-FDR Hydroelectric Rates

The base rates, as set forth in Section III.A. of this Service Tariff, include both commodity and TSC related charges. At all times the commodity component of the base rate (base rate less the TSC rate) shall be no lower than the overall Rural/Domestic Rate (Rural/Domestic Rates computed at the Customer Native System Load Factor). For each Billing Period, if the commodity component of the base rate is lower than the overall Rural/Domestic Rate, the difference between the commodity component of the base rate and the overall Rural/Domestic Rate will be added to the base rate. Concurrently, for each Billing Period, if the commodity component of the base rate is equal to or greater than the overall Rural/Domestic Rate, the base rates, as set forth in Section III.A. of this Service Tariff, will be the month's applicable billing rates, without adjustment.

F. New Charges

The Customer shall be responsible for payment of any and all new third-party charges incurred by the Authority and attributable to its provision of Electric Service to the Customer, including but not limited to, charges and costs incurred for supplying Firm Power and Energy, any new NYISO Charges as may be defined and applied in any NYISO Tariffs, NYISO-related agreements and NYISO procedures from time to time (collectively, "New Charges"). The Authority, in its sole discretion, may include any such New Charges in the base rates or bill the Customer separately for such New Charges.

G. Billing and Billing Methodology

Unless otherwise specified in the Agreement, the following provisions will apply:

1. Billing Energy

The kilowatt-hours (kWh) charged by the Authority to the Customer will be based on the Load Factor Share of the total number of kilowatt-hours recorded on the Authority's revenue grade meters for the Billing Period as follows.

- If the Peak Demand is higher than the Contract Demand in a given month, the Billing Energy shall be equal to the product of the Contract Demand multiplied by the Native System Load Factor and number of hours in the Billing Period.
- If the Peak Demand is less than the Contract Demand, the Billing Energy shall be equal to the total number of kilowatt-hours recorded on the Authority's revenue grade meters for the Billing Period.

2. Scheduling and Settlements of Load

Each hour the Authority will schedule the Customer's load for the full Contract Demand. Any resulting overscheduled load, as reported as Balancing Energy Sell transactions by the NYISO, shall not be reflected on the Customer's bill as there is no entitlement to said transaction. The Customer is encouraged to voluntarily provide an hourly load schedule each month to the Authority. The Customer is required to provide any planned or unplanned outage information to the Authority in a timely manner as follows; the Customer shall provide a minimum of three (3) business days' notice to the Authority when planned load reductions greater than five (5%) percent of the Contract Demand are to occur in excess of a one hour interval. The customer is required to provide any

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unplanned outage information in excess of a one hour interval to the Authority within no less than three (3) business days of the occurrence.

3. Market Purchases

If in any given hour during a Billing Period the Customer load requirements exceed the Customer's Contract Demand (reported as Balancing Energy Purchase transactions), these purchases shall be reflected on the Customer's bill including, but not limited to, TSC charges for the Market Purchase share.

4. Estimated Billing

If the Authority, in its reasonable discretion, determines that it lacks reliable data on the Customer's actual energy usage for a Billing Period during which the Customer receives electric service from the Authority, the Authority shall have the right to render a bill to the Customer for such Billing Period based on estimated usage ("Estimated Bill").

For the purpose of calculating an Estimated Bill, the Billing Energy used in the base charge calculation shall be equal to the Contract Demand (kW) amount as defined in the Agreement at ninety-eight (98) percent load factor for that Billing Period.

If data indicating the Customer's actual usage for any Billing Period in which an Estimated Bill was rendered subsequently becomes available to the Authority, the Authority will make necessary adjustments to the corresponding Estimated Bill in accordance with Section III.H.1 of this Service Tariff and, as appropriate, render a revised bill (or provide a credit) to the Customer.

The Authority's discretion to render Estimated Bills is not intended to limit the Authority's rights under the Agreement or otherwise regarding metering arrangements.

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

H. Adjustments to Charges

1. Billing Adjustments

In addition to any other adjustments provided for in this Service Tariff, in any Billing Period, the Authority may make appropriate adjustments to billings and charges to address such matters as billing and payment errors, the receipt of actual, additional, or corrected data concerning Customer energy usage.

2. Power Factor

For service provided under this and any other Service Tariff or agreement Customer shall maintain not less than ninety-seven and one-half percent (97.5%) power factor at the point of delivery. The Customer's Peak Demand under this Service Tariff will be increased one-half percent (1/2%) for each one-half percent (1/2%) by which the average power factor at which energy is supplied during such Billing Period is less than ninety-seven and one-half percent (97.5%). Average power factor will be computed to the nearest one-half percent (1/2%) according to the following formula:

$$\text{Average Power Factor} = \frac{kWh}{\sqrt{kWh^2 + kvar h^2}}$$

The data used in the above formula shall be obtained from meters which are ratcheted to prevent reverse registration.

3. Adjustment for Transformer Losses

If delivery is made at a transmission voltage but metered on the low-voltage side of Customer's substation, the meter readings will be increased by two percent (2%) to compensate for transformer losses; provided, however, that this percentage may be reduced to reflect improvements in loss rates should new transformers be put in use at Customer's plants.

I. Adjustment of Rates

To the extent consistent with the Agreement between the Authority and the Customer, the base rates contained in this Service Tariff may be revised from time to time as set forth in Section III.E. of this Service Tariff or in order to meet all requirements specified in its bond and note resolutions and covenants with holders of its financial obligations. Should the Authority need to adjust the base rates, the Authority will provide thirty (30) days written notice to the Customer.

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

IV. General Provisions

A. Character of Service

Alternating current; 60 hertz, three-phase.

B. Firm Power Service

Firm Power and Energy under this Service Tariff are hydropower and associated energy intended to be available at all times except for limitations provided in the Agreement, the Rules and in this Service Tariff.

C. Availability of Energy

1. Subject to Section IV.C.2 of this Service Tariff, the Authority shall provide to the Customer in any Billing Period Firm Power and Energy.
2. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of the Authority's Firm Power and Energy customers served from the Hydro Projects, curtailments in the amount of Firm Power and Energy to which the Customer is entitled under the Agreement will be applied on a pro rata basis to all Firm Power and Energy customers served by the Hydro Projects. Reductions as a percentage of the otherwise required Firm Power and Energy sales will be the same for all Firm Power and Energy customers served by the Hydro Projects.
3. The Authority will provide Substitute Energy to the Customer to replace the Firm Power and Energy that would otherwise have been supplied under this Agreement but for the curtailment. For each kilowatt-hour of Substitute Energy supplied by the Authority, in lieu of paying the base rates set forth in Section III.A. above, the Customer shall pay the Authority directly for: (a) the market cost of the Substitute Energy; and (b) all costs, including but not limited to any NYISO Charges and Taxes, the Authority incurs in connection with the provision of Substitute Energy.
4. The Authority will give the Customer advance notice of forecasted shortfalls in Firm Power and Energy which will advise the Customer of the forecasted shortfall of Firm Power and Energy, the period to which the forecast applies (usually a Billing Period), and the Customer's anticipated share of the forecasted shortfall. After the Billing Period to which the notice applies, the Authority will determine after the fact the actual shortfall and make any appropriate adjustments to charges and billings to the Customer in accordance with the rates provided for in this Service Tariff.
5. The Authority is under no obligation to supply and will not supply to the Customer in later Billing Periods any curtailed Firm Power and Energy.

D. Delivery

For the purpose of this Service Tariff, power shall be deemed to be offered when the Authority is able to supply power and NYISO transmits it to its designated points of interconnection with the Customer's transmission agent(s). If, despite such offer, there is a failure of delivery by the Customer or the transmission agents(s), such failure shall not be subject to a billing adjustment pursuant to Section 454.6(d) of the Rules.

E. Electrical Fluctuations

The power and energy taken hereunder shall not be used in such a manner as to cause unusual fluctuations or disturbances on Authority's system. Customer shall provide, at its expense,

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Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

suitable apparatus which will reasonably limit such fluctuations. In the event that unreasonable fluctuations or disturbances, including without limitation harmonic currents resulting in actionable interference with communications systems or in harmonic resonance of now existing facilities, are caused by Customer's facilities, Authority shall immediately notify Customer of the circumstances and Authority shall then have the right to discontinue the delivery of power and energy under this contract upon thirty (30) days prior written notice until conditions causing such fluctuations or disturbances are corrected by Customer. Despite such discontinuance of service Customer shall be obligated to pay the amounts due for Electrical Service under this Service Tariff.

F. Rendition and Payment of Bills

1. The Authority will render bills to the Customer for Electric Service on or before the tenth (10th) business day of the month for charges due for the previous Billing Period. Bills will reflect the amounts due and owing, and are subject to adjustment as provided for in this Agreement, Service Tariff No. AL-1 and the Rules. Unless otherwise agreed to by the Authority and the Customer in writing, the Authority shall render bills to the Customer electronically.
2. Payment of bills by the Customer shall be due and payable by the Customer by the first day of the following month of the date the Authority renders the bill. Payment of bills by the Customer shall be paid through the means as directed on the bill.
3. Except as otherwise agreed by the Authority in writing, if the Customer fails to pay any bill when due, an interest charge of two percent (2%) of the amount unpaid will be added thereto as liquidated damages, and thereafter, as further liquidated damages, an additional interest charge of one and one-half percent (1.5%) of the sum unpaid shall be added on the first day of each succeeding Billing Period until the amount due, including interest, is paid in full.
4. Unless otherwise agreed to by the Authority and the Customer in writing, in the event the Customer disputes any item of a bill rendered by Authority, the Customer shall pay such bill in the time provided for by this Agreement, and adjustments, if necessary, will be made thereafter.
5. If at any time after commencement of Electric Service the Customer fails to make complete payment of any two (2) bills for Electric Service when such bills become due pursuant to Agreement, the Authority shall have the right to require that the Customer deposit with the Authority a sum of money, or provide an irrevocable standby letter of credit, which may be presented for draw at a location in New York State, issued for benefit of the Authority by a bank having a Standard and Poor's long-term issuer rating of "A" or better, or an equivalent rating by Moody's, or Fitch's, and acceptable to the Authority in its reasonable discretion, in either case in an amount equal to all charges that would be due under this Agreement for Electric Service for two (2) consecutive calendar months as estimated by the Authority. Such deposit or standby letter of credit will be deemed security for the payment of unpaid bills. The failure or refusal of the Customer to provide the deposit or standby letter of credit within thirty (30) days of a request made by the Authority consistent with this paragraph will be grounds for the Authority in its sole discretion to suspend Electric Service to the Customer or terminate this Agreement.

G. Conflicts

In the event of any inconsistencies, conflicts, or differences between the provisions of this Service Tariff and the Rules, the provisions of the Service Tariff will govern. In the event of any

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

inconsistencies, conflicts or differences between the Service Tariff and any provisions of the Agreement, the provisions of the Agreement will govern.

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

WORKING CAPITAL GRANT

This **GRANT DISBURSEMENT AGREEMENT ("Agreement")** includes all exhibits and attachments hereto and is made on the terms and by the parties listed below and relates to the Project described below:

**NEW YORK STATE
URBAN DEVELOPMENT
CORPORATION d/b/a
EMPIRE STATE DEVELOPMENT
("ESD" or "GRANTOR"):**

317 Washington Street, 2nd Floor
Watertown, New York 13601
Contact: John VanDeloo
Phone: 315-785-7931
Fax: 518-292-5803
E-mail: john.vandeloo@esd.ny.gov

THE GRANTEE:

Alcoa Inc.
Park Ave. East
Massena NY 13662
Phone: (315) 764-6314
Contact: Robert Lenney
Title: Location Manager
Phone: (315) 764-6314
E-mail: Robert.Lenney@alcoa.com
Federal Taxpayer ID#: 25-0317820

PROJECT NAME:

Massena West Plant Project

PROJECT LOCATION:

Massena, St. Lawrence County

PROJECT NUMBER:

AA364

GRANT AMOUNT:

\$20,600,000

FUNDING SOURCE:

New York Power Authority

ESD APPROVAL DATE:

December 17, 2015

EXPIRATION DATE:

March 31, 2019

TERMS AND CONDITIONS

1. The Project

The project will occur as described in Exhibit A and the ESD Approval materials attached. The Grantee will perform the tasks on the schedule and as described in Exhibit A to this Agreement.

2. Employment Goals & Reporting

- (a) The Grantee represents and warrants that it is in compliance with the commitments set forth in Exhibit C to this Agreement entitled "Employment and Separation Package Commitments, Customer Curtailment, Customer Termination and Liquidated Damages" which Exhibit C is attached to and made a part of this Agreement.
- (b) Grantee shall submit, by February 1 of each year during the term of this Agreement, the Employment Reporting Form attached hereto as Exhibit H, indicating the average number of Grantee's Full-Time Employees (as defined in Exhibit C) for the 12 month period ending as of December 31 of the prior year.

3. Conditions Precedent to Disbursement of the Grant

No grant funds shall be disbursed unless the Grantee is in material compliance with the Terms and Conditions of this Agreement, including, but not limited to, Exhibit E (Disbursement Terms), and the following conditions have been satisfied (and as to 3(d) below continue to be satisfied prior to each disbursement):

- (a) If the Grant Amount exceeds \$100,000, or if, as described in Exhibit A, it is expected that there will be additional grants that in the aggregate exceed \$100,000, ESD has received an opinion of Grantee's counsel, in substantially the form appended to this Agreement as Exhibit D.
- (b) Any necessary approval has been issued by the Director of the Budget of the State of New York, and the Grant funds have been received by ESD.
- (c) There have been no materially adverse changes in the financial condition of the Grantee from the date of submission of its application to ESD to the date of this Agreement.
- (d) The Grantee is in compliance with the requirements of Exhibit C.

4. Disbursement Terms

Subject to the terms and conditions contained in this Agreement, ESD shall disburse the Grant to the Grantee as follows:

(a) ESD shall reimburse the Grantee for Project expenditures incurred by the Grantee as set forth in Exhibit E to this Agreement. Disbursements will be made upon submittal to ESD of a Payment Requisition Form, together with such supporting documentation as ESD may reasonably require, in the form attached to this Agreement as Exhibit F and its attachments, and Exhibit H.

(b) In no event will ESD make any payment which would cause ESD's aggregate disbursements to exceed the Grant Amount.

5. Non Discrimination and Contractor & Supplier Diversity

The Grantee will comply with ESD's Non-Discrimination and Contractor & Supplier Diversity policies set forth in Exhibit G to this Agreement.

6. No Liability of ESD

ESD shall not in any event whatsoever be liable for any third party claims for injury or damage, cost or expense of any nature whatsoever that occurs as a result of or in any way in connection with the Project and the Grantee hereby agrees to indemnify and hold harmless ESD, the State and their respective agents, officers, employees and directors (collectively, the "Indemnitees") from and against any and all such liability other than that caused by the negligence or the willful misconduct of the Indemnitees. Notwithstanding the foregoing, this Section 5 shall not apply to any claims arising out of ESD's decision to award Grant funds to Grantee including any claims challenging whether such award was appropriate and duly authorized under the regulations applicable to ESD.

7. Responsibility Provisions

(a) The Grantee shall at all times during the Agreement term remain responsible. The Grantee agrees, if requested by the President and Chief Executive Officer of ESD or his or her designee, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance, and organizational and financial capacity.

(b) The President and Chief Executive Officer of ESD or his or her designee, in his or her reasonable discretion, reserves the right to suspend any or all activities under this Agreement, at any time, when he or she discovers information that calls into question the responsibility of the Grantee. In the event of such suspension, the Grantee will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, the Grantee must comply with the terms of the suspension order. Activities under this Agreement may resume at such time as the President and Chief Executive Officer of ESD or his or her designee issues a written notice authorizing a resumption of performance under this Agreement.

- (c) Upon written notice to the Grantee, and a reasonable opportunity to be heard with appropriate ESD officials or staff, this Agreement may be terminated by the President and Chief Executive Officer of ESD or his or her designee where the Grantee is determined by the President and Chief Executive Officer of ESD or his or her designee to be non-responsible. Alternatively, in the event that activities under this Agreement are suspended by ESD pursuant to subsection (b) above and such suspension continues for a period of thirty (30) days, then this Agreement may be terminated by Grantee.
- (d) In the event that this Agreement is terminated by either ESD or Grantee for the reasons set forth in this Section 7, the parties agree that (i) the Framework Agreement dated December 18, 2015 shall be deemed terminated as of the same date and (ii) such termination of this Agreement and the Framework Agreement shall not trigger the payment of liquidated damages under either this Agreement or the Framework Agreement.

8. Representations, Warranties and Covenants

The Grantee represents, warrants and covenants that:

- (a) It has full power and authority to execute and deliver this Agreement and to perform its obligations hereunder.
- (b) This Agreement was duly authorized, executed and delivered by the Grantee and is binding and enforceable against the Grantee in accordance with its terms.
- (c) It is a duly organized corporation, validly existing and in good standing under the laws of the State of its incorporation, has the corporate power and authority to own its assets and to transact the business in which it is now engaged or proposed to be engaged and is duly qualified as a foreign corporation and in good standing under the laws of each other jurisdiction in which such qualification is required and shall maintain its corporate existence in good standing in each such jurisdiction.
- (d) As of the date of this Agreement, there are no actions, suits or proceedings or, to the knowledge of Grantee, threatened against, or affecting Grantee before any court, governmental entity or arbitrator, which would be reasonably likely to, in any one case or in the aggregate, materially adversely affect the financial condition, operations, properties or business of the Grantee, except as may have been disclosed in writing to ESD.
- (e) Grantee is in compliance and shall continue to comply in all material respects with all material applicable laws, rules, regulations and orders with respect to implementation of this Agreement.

- (f) The information contained in the application submitted by the Grantee in connection with the project and the Grant, as such application may have been amended or supplemented (the "Application"), is incorporated herein by reference in its entirety. In the event of an inconsistency between the descriptions, conditions, and terms of this Agreement and those contained in the Application, the provisions of this Agreement shall govern. The Grantee hereby represents and warrants that it has made no material misstatement or omission of fact in the Application or otherwise in connection with the Grant and, except as otherwise disclosed in writing to ESD, there has been no adverse material change in the financial condition of Grantee from the date of submission of the Application to the date of this Agreement and that the information contained in the Application continues to be materially correct and complete as of the date of this Agreement.
- (g) The Grantee covenants that it will neither hold itself out as, nor claim to be an officer, employee, agent or representative of ESD or the State by reason hereof, and that it will not by reason thereof, make any claim, demand or application for any right or privilege applicable to an officer, employee, agent or representative of ESD or the State, including without limitation, worker's compensation coverage, unemployment insurance benefits, social security coverage or retirement membership or credit.
- (h) Apart from the commitments made by the Grantee in Exhibit C, neither the Grantee nor any of the members of its Board of Directors or other governing body or its employees have given anything of value to influence any official act or the judgment of any person in the award of the Grant or the performance of any of the terms of this Agreement.
- (i) It shall maintain business operations at the Project Location for the term of this Agreement in accordance with Exhibit C.
- (j) The Grant shall be used solely for Project expenses in accordance with the terms and conditions of this Agreement.
- (k) The Grantee is solely responsible and has sufficient funding for all Project costs in excess of the Grant.
- (l) Grantee is in compliance and shall continue to comply with Section 7 of this Agreement.

9. Default and Remedies

- (a) Each of the following shall constitute a default by the Grantee under this Agreement:

- (i) Failure to perform or observe any material obligation or covenant of the Grantee contained herein, other than a default as set forth in (iii) below, within the time frames established under this Agreement.
 - (ii) The making by the Grantee of any material misstatement or omission of fact in connection with this Agreement or the Grant.
 - (iii) Failure of the Grantee to comply with its commitments set forth in Exhibit C beyond any applicable cure period contained in Exhibit C.
 - (iv) A default beyond any applicable grace period by the Grantee under any other agreement with ESD.
 - (v) if a receiver, liquidator or trustee shall be appointed for Grantee, or Grantee shall be adjudicated a bankrupt or insolvent, or if any petition for bankruptcy, reorganization or arrangement pursuant to federal bankruptcy law, or any similar federal or state law, shall be filed by or against, consented to, or acquiesced in by, Grantee or if any proceeding for the dissolution or liquidation of Grantee shall be instituted.
 - (vi) Failure by the Grantee, for any period of time, to comply with Section 7 of this Agreement.
- (b) Upon the serving of notice to the Grantee of the occurrence of a default (which notice shall specify the nature of the default), ESD shall have the right to terminate this Agreement, provided however, that if the default is pursuant to paragraph 9(a)(i) or 9(a)(iii), no default shall be deemed to have occurred if Grantee cures such default within thirty (30) days of notice of default from ESD, or if the default pursuant to paragraph 9(a)(i) cannot be reasonably cured within such thirty day period, Grantee commences to cure such default within the thirty (30) day cure period and cures the default within ninety (90) days thereafter, provided further that ESD shall not be obligated to make any disbursements until such default has been cured.

Upon termination of this Agreement, ESD may (i) withhold any Grant proceeds not yet disbursed and (ii) where such termination results from Grantee's default under Section 9(a)(iii) above, require payment of liquidated damages in accordance with Exhibit C of this Agreement. Notwithstanding the foregoing, if ESD determines that any Grant proceeds had previously been released based upon fraudulent representations or other willful misconduct, ESD may pursue repayment of all funds and may refer the matter to the appropriate authorities for prosecution. In the event that this Agreement is terminated, the parties agree that (i) the Framework Agreement dated December 18, 2015 shall be deemed terminated as of the same date and (ii) such termination of this Agreement and the Framework Agreement shall not trigger the payment of liquidated damages under either this Agreement or

the Framework Agreement unless the termination results from Grantee's default under Section 9(a)(iii) above.

For avoidance of doubt, (i) the liquidated damages remedies provided in this Agreement are intended to include similar recoveries provided in the Power Supply Agreement between Grantee and the New York Power Authority applicable for the period October 1, 2015 – March 31, 2019 and the Framework Agreement dated December 18, 2015, and the New York Power Authority and ESD collectively shall be entitled to recover such damages in full together only once and shall not be entitled to any duplicative recoveries.

10. Term

The term of this Agreement shall commence on the date hereof and expire on the Expiration Date, as set forth on the first page of this Agreement.

11. Books and Records; Project Audit

- (a) The Grantee will maintain accurate books and records concerning its use of Grant funds for the term of this Agreement and for three (3) years from the expiration or earlier termination of this Agreement and will make those books and records available to ESD, its agents, officers and employees during Grantee's business hours upon reasonable request.
- (b) ESD shall have the right, upon reasonable notice, to conduct, or cause to be conducted, one or more audits, including field inspections, of the Grantee to assure that the Grantee is in compliance with this Agreement. This right to audit shall continue for three (3) years following the expiration or earlier termination of this Agreement.

12. Maintenance of Insurance

Grantee shall maintain in full force and effect insurance in such amounts and covering such risks as Grantee deems prudent.

13. Survival of Provisions

It is agreed that the provisions of this Agreement that are expressed to take effect in whole or in part on or after termination, or are capable of having effect after termination, shall remain in full force and effect despite termination.

14. Notices

- (a) All notices, demands, requests or other communications permitted or required hereunder shall be in writing and shall be transmitted either:

- (i) via certified or registered United States mail, return receipt requested;
- (ii) by personal delivery; or
- (iii) by expedited delivery service.

Such notices shall be addressed as follows or to such different addresses as the parties may from time-to-time designate:

Empire State Development

Name: John VanDeloo
Title: Project Manager
Address: 317 Washington Street. 2nd Fl., Watertown New York, NY 13601

With a copy to:

Title: General Counsel
Address: 633 Third Avenue, 34th Floor, New York, NY 10017

Alcoa Inc.

Name: Robert Lenney
Title: Location Manager
Address: Park Ave. East, Massena, NY 13662

With a copy to:

Alcoa Inc.
Attention: General Counsel
201 Isabella St.
Pittsburgh, PA 15212

- (b) Any such notice shall be deemed to have been given either at the time of personal delivery or, in the case of expedited delivery service or certified or registered United States mail, as of the date of mailing to the address provided herein.
- (c) The parties may, from time to time, specify any new or different address in the United States as their address for purpose of receiving notice under this Agreement by giving fifteen (15) days written notice to the other party sent in accordance herewith. The parties agree to mutually designate individuals as their respective representatives for the purposes of receiving notices under this Agreement. Additional individuals may be designated in writing by the parties for purposes of implementation and administration/billing, resolving issues and problems and/or for dispute resolution.

15. Assignment

ESD acknowledges that Grantee announced on September 28, 2015 that its board of directors has approved a plan to separate into two independent, publicly-traded companies (the "Separation"): (1) a company that will consist of the five business units that today make up Global Primary Products ("Upstream Company"), and (2) a company that will include Global Rolled Products, Engineered Products and Solutions, and Transportation and Construction Solutions ("Value-Add Company"). ESD consents to the transfer, novation and/or assignment of Grantee's rights and obligations under the Agreement to Upstream Company or its affiliates in connection with or in anticipation of the Separation

This Agreement shall be binding upon, shall inure to the benefit of, and may be performed by, the legal successors and assigns of each Party hereto; provided, however, that (i) Grantee may not assign, transfer or convey, directly or indirectly, its rights in and under this Agreement except as expressly permitted herein and (ii) this Agreement may not be assigned or transferred by any receiver, liquidator or bankruptcy trustee in the event of the bankruptcy or insolvency of any Party.

16. No Waiver

No waiver of either Party's rights arising under this Agreement, or any other source, can occur unless such waiver shall be in writing and signed by such party and such written document manifests a clear and unequivocal intent by such party to waive its contractual or other legal rights.

17. Integration/Modification

This Agreement and that certain Framework Agreement dated December 18, 2015 contains the entire agreement of the parties with respect to the subject matter hereof and supersedes all prior oral or written agreements or statements relating to such subject matter. In addition, this Agreement may be modified only by a written instrument executed by the Parties.

18. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of New York. This Agreement shall be construed without the aid of any presumption or other rule of law regarding construction against the party drafting this Agreement or any part of it. In case any one or more of the provisions of this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof and this Agreement shall be construed as if such provision(s) had never been contained herein. In the event of a conflict between the Exhibits hereto and any other term or condition of this Agreement, then the term or condition of this Agreement shall govern.

19. Confidentiality of Information

Information contained in reports made to ESD or otherwise obtained by ESD relating to trade secrets, operations and commercial or financial information, including but not limited to the nature, amount or source of income, profits, losses, financial condition, marketing plans, manufacturing processes, production costs, productivity rates, or customer lists, provided that such information is clearly marked "Confidential" by the Grantee, will be kept confidential by ESD, to the extent such information is reasonably determined by ESD to be exempt from public disclosure under the Freedom of Information Law and not otherwise required by law to be disclosed. Notwithstanding the foregoing, ESD will not be liable for any information disclosed, in ESD's reasonable discretion, pursuant to the Freedom of Information Law or other applicable law, or which ESD is required to disclose pursuant to law or legal process provided that ESD will provide Grantee with advance written notice of any such requirement so that Grantee may have an opportunity to seek any protection available for its information.

20. Force Majeure

To the extent that either ESD or the Grantee is prevented by Force Majeure, as defined in the Framework Agreement dated December 18, 2015, from carrying out, in whole or in part, its obligations under this Agreement (the "Claiming Party"), then the Claiming Party shall be excused from the performance of its obligations with respect to this Agreement in accordance with the terms contained in Article XI of the Framework Agreement.

This agreement is entered into as of the latest date written below:

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d/b/a EMPIRE STATE DEVELOPMENT



(Signature) Edwin Lee, Vice President, Loans and Grants

12/10/15

(date)

Alcoa Inc.

(Signature)

Roy Harvey, President, Global Primary Products

(Printed name and title)

(date)

This agreement is entered into as of the latest date written below:

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d/b/a EMPIRE STATE DEVELOPMENT

(Signature) Edwin Lee, Vice President, Loans and Grants

(date)

Alcoa Inc.



(Signature)

Roy Harvey, President, Global Primary Products

(Printed name and title)

12-18-2015

(date)

ESD WORKING CAPITAL GRANT DISBURSEMENT AGREEMENT

EXHIBITS

EXHIBIT A	Project Description
EXHIBIT B	NOT APPLICABLE
EXHIBIT C	Employment and Separation Package Commitments, Grantee Curtailment, Grantee Termination and Liquidated Damages
EXHIBIT D	Opinion of Counsel
EXHIBIT E	Disbursement Terms
EXHIBIT F	Payment Requisition Form
EXHIBIT F-1	Financial Condition Affidavit
EXHIBIT F-2	Project Cost Affidavit
EXHIBIT G	Non-Discrimination and Contractor & Supplier Diversity – Requirements and Procedures
EXHIBIT H	Employment Reporting Form (With Company's NYS Form 45 Attached)
EXHIBIT I	NOT APPLICABLE

EXHIBIT A: PROJECT DESCRIPTION

See Materials Attached



FOR CONSIDERATION

December 17, 2015

TO: The Directors

FROM: Howard A. Zemsky

SUBJECT: Massena (North Country Region – St. Lawrence County) – ALCOA
Massena Working Capital - New York Power Authority (Working Capital Grant)

REQUEST FOR: Findings and Determinations Pursuant to Section 10 (g) of the Act;
Authorization to Make a Grant and to Take Related Actions

I. Project Summary

Grantee: ALCOA, Inc. ("ALCOA" or the "Grantee")

ESD* Investment: Subject to ESD receipt of Grant funds, Grants of up to \$20,600,000, over a five-year period, to be funded via the New York Power Authority ("NYPA") for working capital purposes.

* The New York State Urban Development Corporation doing business as Empire State Development ("ESD" or the "Corporation")

Project Location: Park Avenue East, Massena, St. Lawrence County

Proposed Project: ALCOA Massena plant will continue plant operations and maintain employment in New York State

Project Type: Working capital involving job retention

Regional Council: The North Country Regional Council has been made aware of this item. The project is consistent with the Regional Plan to support existing employers.

Employment:	Initial employment at time of application to ESD:	Approx 700
	Current employment level:	Approx 700
	Minimum employment through March 31, 2019:	Approx 600

II. Project Cost and Financing Sources

<u>Financing Uses</u>	<u>Amount</u>
Payroll/Operations	<u>\$20,600,000</u>

Total Project Costs	<u>\$20,600,000</u>
---------------------	---------------------

<u>Financing Sources</u>	<u>Amount</u>	<u>Percent</u>
ESD Grant-working capital	<u>\$20,600,000</u>	<u>100%</u>
Total Project Financing	<u>\$20,600,000</u>	<u>100%</u>

III. Project Description

A. Company

Industry: Manufacturing of aluminum and aluminum products

Company History: Formed in 1888 in Pittsburgh Pennsylvania, with headquarters presently in New York City, Alcoa is a global leader in lightweight metals engineering and manufacturing. The ALCOA Massena plant is the oldest continuously operating aluminum production facility in the Western Hemisphere. The Massena plant is one of the largest employers in the North Country.

Ownership: Alcoa is a publicly traded corporation listed on the New York Stock Exchange.

Size: Alcoa operates in 30 countries with over 59,000 employees worldwide.

Market: The Company's products are used in worldwide industries such as aircraft, automobile, transportation, and construction.

ESD Involvement: In early November of 2015, ALCOA announced it would idle one smelting plant in Massena and permanently close another due to low aluminum prices and uncompetitive smelting and refining capacity at the Massena location. The resulting plant closures would have resulted in the loss of nearly 500 jobs in the economically depressed County of St. Lawrence. As a result of the announcement, the State of New York ("State") offered a package of incentives to ALOCA to ensure that the largest employer north of Syracuse would remain open and viable.

As a result of the negotiations with ALCOA, on November 24, 2015, Governor Cuomo announced that a deal had been reached with ALCOA that would retain 600 jobs and ensure the continued operation of the

Massena West Plant. As part of that agreement, ESD will provide \$20.6 million to ALCOA for working capital purposes in accordance with the terms contained in these materials and will provide another \$23 million in support for future capital upgrades to the facility. It is expected that the capital funds will be made available in the State's next budget cycle at which time, additional ESD Board approval will be required to allocate those funds. In addition to the State's contribution through ESD, ALCOA will receive 245 MW of low cost power from NYPA pursuant to an agreement entered into between NYPA, ESD and ALCOA.

In exchange for the State support, ALCOA has agreed to keep the Massena West plant operational with an employment commitment of 600 jobs through March 2019. Currently, the Massena operation employs approximately 700 employees. In the event the employment level is lowered to 600 as expected, ALCOA has agreed to first initiate a voluntary severance and early retirement package to all employees at the Massena operation. Once the employment commitment level is reached, Alcoa has agreed that it will not reduce employment further by utilizing voluntary separation packages or involuntary separation. In addition, should ALCOA not meet the employment commitment, it would be subject to liquidated damages of \$40 million should the default occur in the first quarter of 2016 and decreasing thereafter \$3 million per quarter.

Competition: N/A

Past ESD Support: Since 1992, ALCOA has received approximately \$1.5 million in assistance for worker training projects.

B. The Project

Completion: March 2019

Activity: ALCOA Massena plant will continue operations and maintain employment for manufacturing of aluminum in New York State.

Results: Retain approximately 600 existing jobs

Business
Investment
Project:

Benefit-Costs Evaluations are used in evaluating projects that are categorized as Business Investment, Infrastructure Investment, and Economic Growth Investment and that involve 1) job retention and/or creation and/or 2) construction-related activity. For Business Investment projects, benefits typically reflect the impact of both jobs and construction-related activity. For Infrastructure Investment and

Economic Growth Investment projects, which generate long-term benefits not captured in the period of analysis and may involve no permanent job commitments, the estimated benefits typically reflect only construction-related activity.

Evaluated over a seven-year period, the following are anticipated project impacts (dollar values are present value):

- Fiscal benefits to NYS government from the project are estimated at \$61,008,043;
- Fiscal cost to NYS government is estimated at \$20,600,000;
- Project cost to NYS government per direct job is \$42,917;
- Project cost to NYS government per job (direct plus indirect) is estimated at \$10,022;
- Ratio of project fiscal benefits to costs to NYS government is 2.96:1;
- Fiscal benefits to all governments (state and local) are estimated at \$104,134,131;
- Fiscal cost to all governments is \$20,600,000;
- All government cost per direct job is \$42,917;
- All government cost per total job is \$10,022;
- The fiscal benefit to cost ratio for all governments is 5.06:1;
- Economic benefits (fiscal plus total net resident disposable income from project employment) are estimated at \$811,675,606, or \$394,895 per job (direct and indirect);
- The economic benefit to cost ratio is 39.40:1;
- There is no construction activity related to this project;
- For every permanent direct job generated by this project, an additional 3.3. indirect job is anticipated in the state's economy;
- The payback period for NYS costs is three years.

See Project Summary Benefit-Cost Evaluation (attached) for detail and definitions.

Grantee Contact: John Martin
Park Avenue East
Massena NY 13662
Phone: (315) 764-6314

ESD Project No.: AA364

Project Team:	Project Management	John Vandelloo
	Legal	Stephen Gawlik
	Contractor & Supplier Diversity	Denise Ross
	Finance	Rob Kwon
	Environmental	Soo Kang

C. Financial Terms and Conditions

1. The Company will not reduce employment below 600 Full-time Permanent Employees using voluntary separation packages or involuntary separation. A Full-time Permanent Employee shall mean (a) a full-time, permanent, private-sector employee on the Grantee's payroll, who work at the Project Location for a minimum of thirty-five hours per week for not less than four consecutive weeks and who is entitled to receive the usual and customary fringe benefits extended by Grantee to other employees with comparable rank and duties; or (b) two part-time, permanent, private-sector employees on Grantee's payroll, who work at the Project Location for a combined minimum of thirty-five hours per week for not less than four consecutive weeks and who are entitled to receive the usual and customary fringe benefits extended by Grantee to other employees with comparable rank and duties.
2. Up to \$20,600,000 will be will be disbursed to the Grantee as reimbursement for eligible working capital needs at the Massena location including costs for payroll, materials and supplies during the course of operations and documentation of continued compliance with the employment commitment described above, assuming that all project requirements have been completed and funds are available and in accordance with the following schedule:

\$1.8 million in 4Q 2015; \$7 million in 2016; \$6 million in 2017; \$4 million in 2018; and \$1.8 million in 1Q 2019.

Expenses reimbursed by ESD's grant must be incurred on or after October 1, 2015, to be considered eligible project costs. All disbursements must be requested by March 31, 2020.
3. The source of funding shall be funds made available by the New York State Power Authority for economic development purposes. ESD may reallocate the project funds to another form of assistance, at an amount no greater than \$20,600,000, for this project if ESD determines that the reallocation of the assistance would better serve the needs of the Company and the State of New York. In no event shall the total amount of any assistance to be so reallocated exceed the total amount of assistance approved by the Directors.
4. In consideration for the making of the Grant, Grantee will not reduce employment below 600 Full-Time Employees at the Project Location using voluntary separation packages or involuntary separation. In the event that the Grantee is not able to meet the employment goals, it shall be subject to liquidated damages after an appropriate cure period:

If a Default occurs Before the end of:		Liquidated Damages: (\$MM)
Year 1	Q1	40
	Q2	37
	Q3	34
	Q4	31
Year 2	Q1	28
	Q2	25
	Q3	22
	Q4	19
Year 3	Q1	16
	Q2	13
	Q3	10
	Q4	7
Year 4	Q1	4

IV. Statutory Basis

No residential relocation is required as there are no families or individuals residing on the site.

V. Environmental Review

ESD staff has determined that the project does not constitute an action as defined by the New York State Environmental Quality Review Act ("SEQRA") and the implementing regulations of the New York State Department of Environmental Conservation. No further environmental review is required in connection with the project.

VI. Non-Discrimination and Contractor & Supplier Diversity

Pursuant to New York State Executive Law Article 15-A, ESD recognizes its obligation under the law to promote opportunities for maximum feasible participation of certified minority and women-owned businesses ("MWBEs") in the performance of ESD contracts. Accordingly, ESD's Non-discrimination and Contractor & Supplier Diversity policy will apply to the project. No specific MWBE participation goals shall be required of this project, however, the grantee shall adhere to ESD's Non-discrimination and Equal Employment Opportunity ("EEO") policy. Inquiries relating to the EEO policy may be addressed to the Office of Contractor and Supplier Diversity ("OCSD") at ocsd@esd.ny.gov.

VII. ESD Financial Assistance Subject to Availability of Funds and Additional Approval

The provision of ESD financial assistance is contingent upon the availability of funds and the approval of the State Division of the Budget.

VIII. Additional Submissions to Directors

Resolutions

New York State Map

Benefit-Cost Analysis

Project Finance Memorandum

December 17, 2015

Massena (North Country Region – St. Lawrence County) – ALCOA Massena Working Capital – New York Power Authority (Working Capital Grant) – Findings and Determinations Pursuant to Section 10 (g) of the Act; Authorization to Make a Grant and to Take Related Actions

RESOLVED, that on the basis of the materials presented to this meeting, a copy of which is hereby ordered filed with the records of the Corporation, relating to the ALCOA Massena Working Capital project (the "Project"), the Corporation hereby determines pursuant to Section 10 (g) of the New York State Urban Development Corporation Act of 1968, as amended (the "Act"), that there are no families or individuals to be displaced from the project area; and be it further

RESOLVED, the President and Chief Executive Officer of the Corporation or his designee(s) is, authorized to make to ALCOA Inc. a grant for a total amount not to exceed Twenty Million Six Hundred Thousand Dollars (\$20,600,000) from New York Power Authority funds, for the purposes, and substantially on the terms and conditions, set forth in the materials presented to this meeting, with such changes as the President and Chief Executive Officer of the Corporation or his designee(s) may deem appropriate, subject to the availability of funds and the approval of the State Division of the Budget; and be it further

RESOLVED, that the President and Chief Executive Officer of the Corporation or his designee(s) be, subsequent to the making of the grant, and each of them hereby is, authorized to take such actions and make such modifications to the terms of the grant as he or she may deem necessary or appropriate in the administration of the grant; and be it further

RESOLVED, that the provision of ESD financial assistance is expressly contingent upon: (1) the approval of the Public Authorities Control Board, if applicable, and (2) receipt of all other necessary approvals; and be it further

RESOLVED, that the President and Chief Executive Officer or his designee(s) be, and each of them hereby is, authorized in the name and on behalf of the Corporation to execute and deliver any and all documents and to take all actions as he or she may in his or her sole discretion consider to be necessary or proper to effectuate the foregoing resolutions.

* * *

EXHIBIT B: NOT APPLICABLE

EXHIBIT C

EMPLOYMENT AND SEPARATION PACKAGE COMMITMENTS, CUSTOMER CURTAILMENT, CUSTOMER TERMINATION AND LIQUIDATED DAMAGES

Section I. Grantee Commitments: The commitments of Grantee set forth in this Section I shall apply from October 1, 2015 through March 31, 2019 (the "Term"):

A. West Plant: During the Term, Grantee will continue smelter operations at the West Plant in Massena, New York.

B. Grantee Employee Separation:

(1) Voluntary Separation. Grantee expects that approximately eighty (80) to one hundred (100) employees will receive severance or early retirement benefits ("Employee Separation") at the West Plant and Grantee agrees to implement this Employee Separation by first offering a voluntary separation package to all employees, pursuant to the plan attached hereto as Appendix 1 to this Exhibit C ("Voluntary Separation Package").

(2) Involuntary Separation. Grantee will not use the involuntary separation methods described in Appendix 1 of this Exhibit C ("Involuntary Separation Package", and together with the Voluntary Separation Package, the "Separation Packages") until employees have been given a reasonable period of time, and in no event less than twenty-one (21) days to elect Voluntary Separation, provided that provided that the resultant employment level at the West Plant remains compliant with the employment commitment set forth in Section I (C) below.

C. Grantee Employment Commitments: Once an employment level of six hundred (600) Full-Time Employees at the West Plant (the "Base Employment Level") is reached pursuant to the separation programs described in Section I (B) above, Grantee shall not reduce employment further by utilizing voluntary separation packages or involuntary separation at the West Plant. As used herein, "Full-Time Employee" means a full-time, permanent, private-sector employee on Grantee's payroll, working at the West Plant for a minimum of thirty-five hours per week for not less than four consecutive weeks who is entitled to receive the usual and customary fringe benefits extended by Grantee to other employees with comparable rank and duties. The requirement that a Full-Time Employee shall be employed for not less than four consecutive weeks shall not be required in order to be considered a Full-Time Employee, provided the employee was hired to fill a Full-Time Employee vacancy resulting from a termination for cause.

The ESD acknowledges that following the Separation, all Upstream Company and Value-Add Company employees located at any Grantee facility in Massena, New York will continue to be counted toward the Base Employment Level commitment of Grantee set forth in this Agreement.

D. Maintenance of Base Employment Level. In the event that Grantee employment at the West Plant falls below the Base Employment Level at any time due to termination of employees for cause, Grantee promptly, and in any event in not more than thirty (30) Business Days, (i) shall notify ESD of the employment shortfall, and 2) will fill such Full-Time Employee vacancies with qualified persons following Grantee's usual practice, by recall of previous employees who were involuntarily separated subject to recall rights, by new hires or by transfers of employees (provided such transfers are not from facilities located in New York State) having wages and benefits equivalent to existing workers at the West Plant of equivalent seniority.

E. Curtailed Locations. The Parties acknowledge that, on November 2, 2015, Grantee announced that

it would curtail its Intalco and Wenatchee primary aluminum smelters in Washington State and would partially curtail alumina refining capacity at its Pt. Comfort, Texas facility (the "Curtailed Locations"). Grantee agrees that the Separation Packages to be offered to employees of the West Plant will be no less favorable to the employees than the voluntary and involuntary separation packages to be offered by Grantee to employees of the Curtailed Locations. From the effective date of this Agreement until March 31, 2016, should Grantee offer voluntary or involuntary separation packages to employees of any of the Curtailed Locations which are more favorable to the employees than the Separation Packages described in Appendix 1 of this Exhibit C, Grantee will amend the Separation Packages offered to the West Plant employees so that the resulting Separation Packages are equivalent to the separation packages offered to the employees of such Curtailed Locations.

- F. Re-Training and Job Placement Services: Grantee agrees to work with the New York State Department of Labor to ensure that all re-employment and training services and programs available through New York State and/or through New York State-sponsored programs will be provided to Grantee employees affected by the Employee Separation. Such services will include job referral and career counseling services and résumé preparation as well as any job re-training programs which may be made available through New York State or the federal government.
- G. Enhanced Voluntary Separation Benefit for Hourly Employees: Grantee agrees that the Voluntary Separation Package to be offered to hourly employees of the West Plant will contain enhanced financial benefits and broader retirement eligibility when compared to the standard benefits to which the hourly employees of the West Plant would otherwise be entitled to had Grantee not offered the Voluntary Separation Package.
- H. Employment Records and Reports: Grantee shall provide annual reports on employment in accordance with Exhibit H of this Agreement. Such report shall be certified to be correct by the plant manager or such other person authorized by the Grantee to prepare and file such report.. ESD shall have the right to examine and audit on reasonable advance written notice all non-confidential written and electronic records and data concerning employment levels including, but not limited to, personnel records and summaries held by the Grantee and its affiliates relating to employment in New York State.
- I. Communications: The Parties agree to coordinate the timing and content of any public communications regarding this Agreement and the transactions contemplated hereby and Grantee agrees that, prior to December 31, 2018, it will not make any announcements or other communications to the public, investors, or employees regarding any planned curtailment or employment reduction at the West Plant (except the Employee Separations described in Section I (C) above). Grantee will use its best efforts to maintain the confidentiality of any action it takes with respect to any planned curtailment or employment reduction at the West Plant prior to December 31, 2018 (the "Confidential Curtailment Information") and will not disclose to any person such Confidential Curtailment Information except (a) as reasonably required in planning for the orderly and prudent operation, curtailment or closure of the West Plant following the Term hereof, (b) as required by any applicable law, governmental regulations, subpoena or other written demand made in accordance with applicable law or as required in connection with any legal proceedings arising from or in connection with this Agreement; or (c) to any legal advisor, accountant or auditor.

Section II. Liquidated Damages

In the event that (i) the ESD terminates this Agreement as a result of Grantee's material breach of one or more of the covenants set forth in Section I (A), (B), (C), (D), (E) or (I) of this Exhibit C and failure to cure such breach within thirty (30) days following receipt of written notice thereof from

ESD or (ii) Grantee terminates this Agreement for reasons other than Force Majeure or material breach by the ESD, then Grantee shall pay to ESD or New York Power Authority, promptly upon demand, Liquidated Damages on a sliding scale as set forth in Appendix 2 of this Exhibit C as full and final compensation to the ESD and New York Power Authority and no other payment or charge, including demand charges, shall be payable by Grantee as a result of such termination, whether under this Agreement, the Framework Agreement dated December 18, 2015, or the Power Supply Agreement applicable for the period October 1, 2015 – March 31, 2019.

APPENDIX 1 of EXHIBIT C

Separation Packages

Hourly Voluntary Separation Package (Pending USW Approval):

Hourly employees who, if eligible, elect to retire from Grantee will receive an Enhanced Pension Benefit

- A provision that opens the pension window to increase the number of employees eligible for retirement
- A \$400 per month addition to the employees' pension payment until age 62
- Lump sum payment equal to \$10,000 plus \$400 per year of service

Hourly employees who elect to leave Grantee but are not immediately eligible to retire will receive a lump sum payment equal to \$10,000 plus \$400 per year of service.

Hourly employees who accept a transfer to another Grantee location are eligible for relocation benefits.

Hourly Involuntary Separation Package:

Hourly employees who are laid off are eligible for the following benefits.

- Supplemental Unemployment Benefit (SUB-pay) which equates to 28 hours of weekly pay (net of unemployment pay for 26 weeks) to employees for a time period based on their seniority, subject to labor agreement terms:
 - at least 2 years but less than 10 years of seniority - 52 weeks maximum
 - at least 10 years but less than 20 years of seniority - 78 weeks maximum
 - 20 or greater years of seniority - 104 weeks maximum
- Recall rights
- Health care benefits for a time period depending on seniority
 - at least 2 years but less than 10 years of seniority - 1 year
 - 20 or greater years of seniority — 2 years
- Career services will be offered

Salaried Voluntary Separation Package:

Salaried employees who elect to retire or leave Grantee will receive a lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks. Salaried employees who accept a transfer to another Grantee location are eligible for relocation benefits.

Salaried Involuntary Separation Package:

Salaried employees who are involuntarily separated from Grantee will receive

- A lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks
- Health care benefits for one year
- Career counseling services

APPENDIX 2 of EXHIBIT C

Liquidated Damages for Material Breach Pursuant to Section II of this Exhibit C ("Default")

Termination in Quarter and Year:		Damages Owed: (\$MM)
2016	Q1	40
	Q2	37
	Q3	34
	Q4	31
2017	Q1	28
	Q2	25
	Q3	22
	Q4	19
2018	Q1	16
	Q2	13
	Q3	10
	Q4	7
2019	Q1	4

EXHIBIT D: OPINION OF COUNSEL

[Alcoa Letterhead]

[Date]

Empire State Development
Washington Street, 2nd Floor
Watertown, New York 13601

Attn: John Vandelloo

Re: ALCOA Massena Working Capital, Project #AA364

Ladies and Gentlemen:

I have served as in-house counsel to Alcoa Inc. a corporation, in connection with the execution and delivery of the Grant Disbursement Agreement dated December 18, 2015 (the "Agreement") between New York State Urban Development Corporation d/b/a Empire State Development ("ESD") and the Grantee.

This opinion letter is being furnished to you pursuant to Section 3(a) of the Agreement. Capitalized terms used but not defined herein shall have the meanings assigned thereto in the Agreement.

In issuing this letter, I have examined originals, or copies certified or otherwise identified to my satisfaction, of such documents, corporate records and other instruments as I have deemed necessary or appropriate for the purposes of this opinion letter, including (a) the Agreement, (b) the certificate of incorporation of the Grantee and (c) the by-laws of the Grantee. I have also examined and relied upon such other matters of law, documents, certificates of public officials and representations of officers and other representatives of the Grantee as I have deemed relevant, appropriate or necessary to the rendering of this opinion letter.

In issuing this letter, I have assumed the legal capacity of all natural persons signing documents and that the signatures of persons signing all documents in connection with which this opinion letter is rendered are genuine, all documents submitted to me as originals or duplicate originals are authentic and all documents submitted to me as copies, whether certified or not, conform to authentic original documents. Additionally, I have assumed and relied upon the accuracy and completeness of all certificates and other statements, documents, records, financial statements and papers reviewed by me, and the accuracy and completeness of all representations, warranties, confirmations, schedules and exhibits contained in the Agreement, with respect to the factual matters set forth therein.

As to any facts material to the opinions expressed herein that I did not independently establish or verify, I have relied upon written statements and representations of officers

and other representatives of the Grantee and of certain public officials. I have also assumed and relied upon the accuracy and completeness of all certificates and other statements, representations, documents, records, financial statements and papers reviewed by me, and the accuracy and completeness of all representations, warranties and exhibits contained in the Agreement with respect to the factual matters set forth therein.

Based upon the foregoing and subject to the assumptions, qualifications and other matters set forth herein, I am of the opinion that the representations, warranties and covenants made by the Grantee pursuant to Section 8(a), Section 8(b) and Section 8(c) of this Agreement are true and correct as of the date hereof.

I am admitted to practice in the Commonwealth of Pennsylvania and express no opinion as to any matters governed by any laws other than the laws of the Commonwealth of Pennsylvania. The opinions expressed herein that are based on the laws of the Commonwealth of Pennsylvania are limited to the laws generally applicable in transactions of the type covered by the Agreement.

This opinion letter is for the benefit solely of ESD and not for the benefit of any other person. I am opining herein only as of the date hereof and undertake no, and disclaim any, obligation to advise you of any changes in any matter set forth herein, regardless of whether changes in such matters come to my attention after the date hereof. No attorney-client relationship exists or has existed with ESD by reason of our preparation, execution and delivery of this opinion letter. By providing this opinion letter and permitting reliance hereon by you, I am not acting as your counsel and have not assumed any responsibility to advise you with respect to the adequacy of this opinion letter for your purposes. This opinion letter may not be relied upon by any other person or for any other purpose or used, quoted or otherwise referred to for any other purpose.

Very truly yours,

EXHIBIT E: DISBURSEMENT TERMS

Disbursement

Subject to the terms and conditions of this Agreement, ESD shall disburse the Grant upon submission of the documentation set forth below:

I. Initial Disbursement

An Initial Disbursement of an amount equal to \$1,800,000 will be disbursed to the Grantee upon documentation of \$1,800,000 of payroll and other working capital expenses incurred in the Fourth Quarter of 2015, and the employment of the required number of Full-Time Employees at the Project location in accordance with Schedule C, provided the Grantee is otherwise in compliance with the terms and conditions of this Agreement. Payment will be made upon presentation to ESD of an invoice and such other documentation as ESD may reasonably require, in the form attached to this Agreement as Exhibit F and Exhibit H and their attachments. Expenses must be incurred on or after October 1, 2015 to be considered eligible 2015 project costs for purposes of the Initial Disbursement.

II. 2016 Disbursements

2016 Disbursements of an amount equal to \$7,000,000 will be disbursed to the Grantee in two equal installments occurring in the second and fourth quarter of 2016 upon documentation of payroll and other working capital expenses equal to or greater than the requested disbursement incurred in 2016, and the employment of the required number of Full-Time Employees at the Project location in accordance with Schedule C, provided the Grantee is otherwise in compliance with the terms and conditions of this Agreement. Payment will be made upon presentation to ESD of an invoice and such other documentation as ESD may reasonably require, in the form attached to this Agreement as Exhibit F and Exhibit H and their attachments. Expenses must be incurred on or after January 1, 2016 to be considered eligible 2016 project costs for purposes of 2016 Disbursements.

III. 2017 Disbursements

2017 Disbursements of an amount equal to \$6,000,000 will be disbursed to the Grantee in two equal installments occurring in the second and fourth quarter of 2017 upon documentation of payroll and other working capital expenses equal to or greater than the requested disbursement incurred in 2017, and the employment of the required number of Full-Time Employees at the Project location in accordance with Schedule C, provided the Grantee is otherwise in compliance with the terms and conditions of this Agreement. Payment will be made upon presentation to ESD of an invoice and such other documentation as ESD may reasonably require, in the form attached to this Agreement as Exhibit F and Exhibit H and its attachments. Expenses must be incurred on or after January 1, 2017 to be considered eligible project costs for purposes of 2017 Disbursements.

IV. 2018 Disbursements

2018 Disbursements of an amount equal \$4,000,000 will be disbursed to the Grantee in two equal installments occurring in the second and fourth quarter of 2018 upon documentation of payroll and other working capital expenses equal to or greater than the requested disbursement incurred in 2018, and the employment of the required number of Full-Time Employees at the Project location in accordance with Schedule C, provided the Grantee is otherwise in compliance with the terms and conditions of this Agreement. Payment will be made upon presentation to ESD of an invoice and such other documentation as ESD may reasonably require, in the form attached to this Agreement as Exhibit F and Exhibit H and their attachments. Expenses must be incurred on or after January 1, 2018 to be considered eligible project costs for purposes of 2018 Disbursements.

V. 2019 Disbursements

2019 Disbursements of an amount equal to \$1,800,000 will be disbursed to the Grantee in the First Quarter of 2019 upon documentation of \$1,800,000 of payroll and other working capital expenses incurred in 2019, provided the Grantee is otherwise in compliance with the terms and conditions of this Agreement. Payment will be made upon presentation to ESD of an invoice and such other documentation as ESD may reasonably require, in the form attached to this Agreement as Exhibit F and Exhibit H and their attachments. Expenses must be incurred on or after January 1, 2019 to be considered eligible project costs for purposes of 2019 Disbursements.

Notwithstanding the Expiration Date set forth on the first page of this Agreement, Grantee must request and submit all documentation for the final disbursement of the Grant by no later than July 15, 2019.

Wire Transfer Information:

Grantee's wire transfer information for the receipt of Grant funds is set forth below:

Bank Name: _____

ABA #: _____

Acct. Name: _____

Acct. #: _____

EXHIBIT F: WORKING CAPITAL GRANT PAYMENT REQUISITION FORM

ALCOA Massena Working Capital, Project #AA364 Disbursement Request Amount: \$_____

ESD funds may be applied by Grantee in payment or reimbursement of the following costs:

Minimum Expense Incurred (per Exhibit E)	See Exhibit E				
Eligible Expenses	A: Actual Costs Incurred (this request)	B: ESD Share (this request)	C: Cumulative Amount Previously Received from ESD	D: Grant Amount (Cumulative if multi-year grant)	E: (D-C-B) Grant Balance Remaining
Working Capital				\$1,800,000	
Working Capital				7,000,000	
Working Capital				6,000,000	
Working Capital				4,000,000	
Working Capital				1,800,000	
TOTAL				\$20,600,000	

CERTIFICATION

I hereby warrant and represent to Empire State Development ("ESD") that:

- 1) To the best of my knowledge, information and belief, the expenditures for which ALCOA Inc. is seeking payment and/or reimbursement comply with the requirements of the Agreement between ESD and ALCOA, Inc., and that the payment and/or reimbursement of expenditures for which it is seeking payment and/or reimbursement from ESD does not duplicate reimbursement or disbursement of costs and/or expenses from any other source.
- 2) I have the authority to submit this invoice on behalf of ALCOA, Inc.
- 3) I hereby attach the following documents for ESD approval, in support of this requisition (note N/A if not applicable for this request):
 - ___ Exhibit F-1: Financial Condition Affidavit
 - ___ Exhibit F-2: Project Cost Affidavit
 - ___ Exhibit H: Report of Employment & NYS-45 form including cover page and NYS-45-ATT attachment (with social security numbers blocked out and location indicated as necessary) or equivalent documentation of employees, location, status, and payroll information
- 4) The Grantee is in compliance with the terms and conditions of Section 7 of the Agreement.
- 5) Representations, Warranties and Covenants made in Section 8 of the Agreement are still true, complete and accurate.

Signature: _____ Print Name: _____

Title: _____ Date: _____

At any point in the course of your project, ESD would appreciate feedback regarding this ESD program. Please comment on the application, project approval, and/or payment reimbursement process or any other interactions with ESD related to the project. You may submit your feedback under separate cover to Edwin Lee, VP – Loans and Grants, 633 Third Avenue, NY, NY 10017. Please include your Project Number and Project Name which are listed at the top of this exhibit on your submission.
Thank you.

EXHIBIT F-1: FINANCIAL CONDITION AFFIDAVIT

The Undersigned, being duly sworn, deposes and says:

4. I make this affidavit and the certifications contained herein to induce ESD to disburse the grant under the terms of the Agreement, knowing that ESD will rely on the statements contained herein. I am aware that the swearing of a false oath is a Class A misdemeanor and may be a Class E felony.

Notary Public

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d\b\A EMPIRE STATE DEVELOPMENT
Alcoa Massena Working Capital, Project Number AA364

EXHIBIT F-2: PROJECT COST AFFIDAVIT

STATE OF NEW YORK)
) ss.:
COUNTY OF)

The Undersigned, being duly sworn, deposes and says:

1. I, _____, am the _____ of Alcoa, Inc. (the "Company"), a corporation that is duly organized and validly existing under the laws of _____, and is authorized to do business and is in good standing in the State of New York.

2. I have read and know the contents of a certain Grant Disbursement Agreement (the "Agreement") executed by and between New York State Urban Development Corporation d/b/a Empire State Development ("ESD") and the Company dated the _____ day of _____, 20____.

3. After having read and reviewed the Agreement, invoices and payments relating thereto, statements of cost, and such other documents as I consider necessary to render the certifications contained herein, I do certify, on the Company's behalf, that the costs for the project were incurred in the manner set forth in the Agreement, and the total cost incurred was equal to or greater than Dollars (\$_____).

4. I make this affidavit and the certifications contained herein to induce ESD to disburse the grant under the terms of the Agreement, knowing that ESD will rely on the statements contained herein. I am aware that the swearing of a false oath is a Class A misdemeanor and may be a Class E felony.

By:
Name:
Title:

Subscribed and sworn to before me
this _____ day of _____, 20____

Notary Public

EXHIBIT G

I. General Provisions

- A. Empire State Development (ESD) is required to implement the provisions of New York State Executive Law Article 15-A and 5 NYCRR Parts 142-144 ("MWBE Regulations") for all State contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services, equipment, materials, or any combination of the foregoing or (2) in excess of \$100,000 for real property renovations and construction.
- B. The Recipient of the subject Grant Disbursement Agreement (the "Recipient" and the "Contract," respectively) agrees, in addition to any other nondiscrimination provision of the Contract and at no additional cost to ESD, to fully comply and cooperate with the ESD in the implementation of New York State Executive Law Article 15-A. These requirements include equal employment opportunities for minority group members and women ("EEO") and contracting opportunities for certified minority and women-owned business enterprises ("MWBEs"). Recipient's demonstration of "good faith efforts" pursuant to 5 NYCRR §142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the "Human Rights Law") or other applicable federal, state or local laws.
- C. Failure to comply with all of the requirements herein may result in a finding of non-responsiveness, non-responsibility and/or a breach of contract, leading to the withholding of funds or such other actions, liquidated damages pursuant to Section VII of this Appendix or enforcement proceedings as allowed by the Contract.

II. Contract Goals

- A. Pursuant to New York State Executive Law Article 15-A, ESD recognizes its obligation under the law to promote opportunities for maximum feasible participation of certified minority-and women-owned businesses (MWBEs) in the performance of ESD projects. For purposes of this project, however, goals will not be established due to the unavailability of certified MWBEs for performance of this Contract.

III. Equal Employment Opportunity (EEO)

- A. Recipient agrees to be bound by the provisions of Article 15-A and the MWBE Regulations promulgated by the Division of Minority and Women's Business Development of the Department of Economic Development (the "Division"). If any of these terms or provisions conflict with applicable law or regulations, such laws and regulations shall supersede these requirements.
- B. Recipient shall comply with the following provisions of Article 15-A:
 - 1. Recipient and subcontractors shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment,

promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.

2. The Recipient shall submit an EEO policy statement to the ESD with the executed Contract.
3. If Recipient or subcontractor does not have an existing EEO policy statement, the ESD may provide the Recipient or subcontractor a model statement (see EXHIBIT G-1: M/WBE Participation/Equal Employment Opportunity Policy Statement).
4. The Recipient's EEO policy statement shall include the following language:
 - a. The Recipient will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force.
 - b. The Recipient shall state in all solicitations or advertisements for employees that, in the performance of the Contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
 - c. The Recipient shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Recipient's obligations herein.
 - d. The Recipient will include the provisions of Subdivisions (a) through (c) of this Subsection 4 and Paragraph "e" of this Section III, which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Contract.
 - e. Recipient shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Recipient and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.



Exhibit G-1

M/WBE PARTICIPATION / EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

I, _____ (CONTRACTOR OR GRANT REPRESENTATIVE),

the _____ (GRANTEE/COMPANY NAME)

agree to adopt the following policies with respect to the project being developed or services rendered at

NON-DISCRIMINATION AND EQUAL EMPLOYMENT OPPORTUNITY POLICY

- (a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on state contracts.
- (b) This organization shall state in all solicitation or advertisements for employees that in the performance of the State contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.
- (c) At the request of the ESD, this organization shall request each employment agency, labor union, or authorized representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.
- (d) Organization shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. The organization and its sub-vendors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.
- (e) The organization will include the provisions of sections (a) through (d) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with this contract.

MWBE PARTICIPATION (MWBE)

This organization will and will cause its contractors and subcontractors to take good faith actions to achieve the M/WBE contract participations goals set by the State for that area in which the State-funded project is located, by taking the following steps:

- (1) Actively and affirmatively solicit bids for contracts and subcontracts from qualified State certified MBEs or WBEs, including solicitations to M/WBE contractor associations.



Exhibit G-1

M/WBE PARTICIPATION / EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

- (2) Request a list of State-certified M/WBEs from ESD's Office of Contractor and Supplier Diversity ("OCSD") and solicit bids from the listed vendors directly. OCSD may be reached via email at OCSD@ESD.NY.GOV.
- (3) Ensure that plans, specifications, request for proposals and other documents used to secure bids will be made available in sufficient time for review by prospective M/WBEs.
- (4) Where feasible, divide the work into smaller portions to enhanced participations by M/WBEs and encourage the formation of joint venture and other partnerships among M/WBE contractors to enhance their participation.
- (5) Document and maintain records of bid solicitation, including those to M/WBEs and the results thereof. Contractor will also maintain records of actions that its subcontractors have taken toward meeting M/WBE contract participation goals.
Ensure that progress payments to M/WBEs are made on a timely basis so that undue financial hardship is avoided, and that bonding and other credit requirements are waived or appropriate alternatives developed to encourage M/WBE participation.

Agreed on this _____ day of _____ 20_____.

By: _____
(SIGNATURE)

Print Name: _____

Title: _____

Minority & Women Business Enterprise-Equal Employment Opportunity Liaison

_____ (name of designated contractor/grantee liaison) is designated as the Minority and Women Business Enterprise Liaison responsible for administering the Minority and Women-Owned Business Enterprises-Equal Employment Opportunity (M/WBE-EEO) program.

M/WBE Contract Goals

N/A % Minority Business Enterprise Participation

N/A % Women's Business Enterprise Participation

N/A % TOTAL/OVERALL M/WBE Participation Goal

EEO Contract Goals

NOT APPLICABLE % Minority Labor Force Participation

NOT APPLICABLE % Female Labor Force Participation

(Signature of Contractor's Authorized Representative)

*Name: _____

*Company: _____

*Title: _____

*Phone: _____

*Fax: _____

*Address: _____

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
d\b\ a EMPIRE STATE DEVELOPMENT
ALCOA Massena Working Capital, Project Number AA364

EXHIBIT H: REPORT OF EMPLOYMENT (WITH NYS FORM 45 ATTACHED)

Complete EITHER Table A (as Annual Report*) OR Table B (with every Payment Request)

Attach NYS-45 form including cover page and NYS-45-ATT (with blocked out social security numbers and location indicated as necessary. If the reported employment figures on Exhibit H vary materially from those reported to the New York State Department of Labor on NYS-45, please attach an explanation identifying reasons for any difference.

Annual Report: Sent to Portfolio Management; Empire State Development; 633 Third Avenue; New York, NY 10017

FULL-TIME PERMANENT EMPLOYEES

For purposes of this Agreement, a **Full-time Permanent Employee** shall mean a full-time, permanent, private-sector employee on the Grantee's payroll, who has worked at the Project Location for a minimum of thirty-five hours per week for not less than four consecutive weeks and who is entitled to receive the usual and customary fringe benefits extended by Grantee to other employees with comparable rank and duties. The requirement that a Full-Time Employee shall be employed for not less than four consecutive weeks shall not be required in order to be considered a Full-Time Employee, provided the employee was hired to fill a Full-Time Employee vacancy resulting from a termination for cause.

Table A: Annual Report due every February 1 for prior calendar year

FULL-TIME PERMANENT EMPLOYEES	As of Grantee's last payroll date on or prior to the end of the designated quarter				ANNUAL AVERAGE (Based on the four quarterly numbers)
	March 31, 20__	June 30, 20__	Sept. 30, 20__	Dec. 31, 20__	
At Project Location					
At Other New York Locations (if applicable)					

Table B: With every Payment Request

FULL-TIME PERMANENT EMPLOYEES	as of ____/____/____ (date of request)
At Project Location	
At Other New York Locations (if applicable)	

The information included herein is correct to the best of my knowledge and belief.

Signature: _____ Date: _____

Print Name and Title: _____

Any false statement herein may cause the borrower or grantee to be in default under its grant disbursement agreement with ESD.

POWER AUTHORITY OF THE STATE OF NEW YORK

30 South Pearl Street
10th Floor
Albany, New York 12207-3425

AGREEMENT FOR THE SALE
OF FIRM HYDROELECTRIC POWER AND ENERGY FROM
THE ST. LAWRENCE-FDR POWER PROJECT
TO ALCOA INC.

Service Tariff No. AL – 1 - Electric Service Tariff for Alcoa Inc. Firm Hydroelectric Power
Service

[DATE]

POWER AUTHORITY OF THE STATE OF NEW YORK

**30 South Pearl Street, 10th Floor
Albany, New York 12207-3425**

**AGREEMENT FOR THE SALE
OF FIRM HYDROELECTRIC POWER AND ENERGY FROM
THE ST. LAWRENCE-FDR POWER PROJECT
TO ALCOA INC.**

Alcoa Inc. ("Alcoa" or "Customer") hereby enters into this Agreement with the Power Authority of the State of New York ("Authority" or "NYPA," and collectively with Customer, the "Parties") for the sale of firm power and energy for its facilities at Park Avenue East ("West Plant"), Massena, New York 13662 as follows:

WHEREAS, the Authority and Alcoa, in or around February 2009, entered into a contract entitled "Agreement for the sale of Firm and Interruptible Hydroelectric Power and Energy From the St. Lawrence-FDR Power Project to Alcoa Inc." (the "2009 Agreement");

WHEREAS, the Authority and Alcoa, in or around January 2011, entered into an amendment entitled "First Supplemental Agreement Modifying Certain Agreements and Understandings Between the Parties Regarding the Sale of Hydroelectric Power and Energy" (the "2011 Supplemental Agreement") which, among other things, modified the 2009 Agreement;

WHEREAS, the Authority and Alcoa, in or around March 2014, entered into an amendment entitled "Supplemental Agreement Further Modifying the 2009 Agreement Between the Parties Regarding the Sale of Hydroelectric Power and Energy" (the "2014 Supplemental Agreement") which, among other things, further modified the 2009 Agreement;

WHEREAS, the Parties seek to replace the 2009 Agreement, as supplemented by the 2011 Supplemental Agreement and 2014 Supplemental Agreement, with a contract that will provide to Customer from the Authority's St. Lawrence-FDR Project 245,000 kW of Firm Power and Energy to be used by Customer at its - West Plant facilities as it sees fit; and

WHEREAS, such Allocation shall be sold by the Authority to Customer under this Agreement for the Sale of Firm Power and Energy ("Agreement"); and

WHEREAS, such Allocation is subject to the tariffs of the New York Independent System Operator, Inc. ("NYISO");

NOW THEREFORE, the Parties hereto agree as follows: **I. Definitions**

- A. 2009 Agreement** has the meaning ascribed to it in the first "Whereas" clause.
- B. 2011 Supplemental Agreement** has the meaning ascribed to it in the second "Whereas" clause.
- C. 2014 Supplemental Agreement** has the meaning ascribed to it in the third "Whereas" clause.
- D. Agreement** means this Agreement also known as the Power Supply Agreement, which attaches and incorporates Service Tariff No. AL - 1.
- E. Allocation** means the allocation of Firm Power and Energy to Customer on the terms set forth herein.
- F. Authority or NYPA** is the Power Authority of the State of New York, doing business as New York Power Authority.
- G. Contract Demand** will be the amount set forth in Article II or such other amount as may be determined in accordance with the provisions of this Agreement.
- H. Customer** is Alcoa.
- I. Electric Service** is Firm Power and Energy sold to Customer in accordance with this Agreement and applicable Service Tariffs and Rules.
- J. Firm Power and Energy** is power and associated energy from the Project as provided in Service Tariff No. AL - 1, and allocated by Authority for business use as Preservation Power pursuant to Section 1005 (13) of the New York Public Authorities Law ("PAL").
- K. FERC** means the Federal Energy Regulatory Commission (or any successor organization).
- L. FERC License** means the license issued by FERC to Authority for the continued operation and maintenance of the Project, pursuant to Section 15 of the Federal Power Act.
- M. Force Majeure** has the meaning set forth in Section XIV.

- N. Hydro Projects** is a collective reference to the Project (defined below) and Authority's Niagara Project, FERC Project No. 2216.
- O. NYISO** means the New York Independent System Operator or any successor organization responsible for the transmission and the reliable supply of electricity in the State of New York.
- P. Project** means Authority's St. Lawrence-FDR Project, FERC Project No. 2000.
- Q. RECs** has the meaning set forth in Section II.
- R. Rules** are the applicable provisions of Authority's Rules and Regulations for Power Service (Part 454 of Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York) as they are modified from time to time.
- S. Service Tariff** is a schedule or tariff of Authority establishing rates and other conditions for sale of Electric Service to Customer, including Service Tariff No. AL – 1 attached hereto as Schedule B, which may be modified from time to time.
- T. TSC** is the “NYPA Transmission Service Charge”, authorized under the NYISO Open Access Transmission Tariff and applicable to deliveries of Electric Service to Customer.
- U. Unforced Capacity** shall have the same meaning as set forth in the NYISO Market Services Tariff, as it may be modified from time to time.

Other capitalized terms herein that are not otherwise defined in this Agreement shall have the meaning set forth in Service Tariff or the Rules.

II. Electric Service to be Provided

- A. Contract Demand.** Authority shall provide Electric Service pursuant to Service Tariff No. AL - 1 ("ST AL - 1") for Firm Power and Energy to enable the Customer to receive its Allocation from the Project, in the amount set forth below, which amount shall be the Contract Demand:

245,000 Kilowatts of Firm Power and Energy

As part of the Allocation, Authority shall provide Unforced Capacity in amounts necessary to meet Customer's NYISO Unforced Capacity obligations associated with the foregoing Allocation of Firm Power and Energy in accordance with the rules and tariffs of the NYISO. Neither Ancillary Services (as defined in the rules and tariffs of the NYISO), nor "green" attributes or renewable energy credits (collectively referred to herein as "RECs," as may be hereinafter defined and as

modified from time to time by the New York State Public Service Commission or other agency having jurisdiction over such matters) are included in such

Allocation. Authority retains for its own use and benefit any such RECs associated with that portion of the Project that supports the Allocation; provided, however, that: (1) should Customer be required by federal or state law, rule or regulation to secure RECs in connection with the operation of the West Plant; and (2) such RECs are deemed transferable under applicable federal or state law, rule or regulation, then Authority shall make available such RECs to Customer on a basis consistent with the policies adopted by Authority's Trustees for all similarly situated customers.

- B. Delivery Points. At 115,000 Volts at the points of interconnection of Customer's transmission lines to the Barnhart Island Switchyard of Authority at the West Plant, Massena, New York, or at such other points and voltages as agreed between Customer and Authority.
- C. Reduction of Contract Demand. The foregoing Contract Demand may be reduced by Authority if the amount of Firm Power and Energy available for sale from the Project is reduced as required to comply with any unstayed ruling, order or decision of any regulatory or judicial body of competent jurisdiction. Any such reduction in the Contract Demand made by Authority under this subparagraph shall be in proportion to the overall reduction in the aggregate contract demands of hydroelectric customers sold by Authority from the Project.
- D. Authority and Customer shall cooperate in any relocation or installation of transformers or other related facilities servicing Customer's plant that either Party reasonably deems necessary or desirable. The costs of any such relocation or installation shall be the responsibility of Customer, except in cases where Authority seeks the relocation or installation; provided however, that Authority will, if requested by Customer, consider in good faith whether its other customers receive any substantial benefit from such relocation or installation. If NYPA determines that such substantial benefits exist, it shall negotiate in good faith with Customer regarding an alternative funding arrangement. In any event, NYPA shall not be obligated to agree upon an alternative funding arrangement.

III. Employment and Other Commitments; Liquidated Damages

Schedule A to this Agreement entitled "Employment and Separation Package Commitments, Customer Curtailment, Customer Termination and Liquidated Damages" is attached to and made a part of this Agreement ("Schedule A").

IV. Rules, Regulations and Service Tariff

The Rules and the Service Tariff are hereby incorporated into this Agreement with the same force and effect as if herein set forth at length. In the event of any

inconsistencies, conflicts or differences between the provisions of the Service Tariff and the Rules, the provisions of the Service Tariff shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of this Agreement and the Service Tariff, the provisions of this Agreement shall govern. Except as may be provided under Section V.D., below, Authority shall provide at least thirty (30) days prior written notice to Customer of any proposed change in the Rules or Service Tariff, but in no event shall Authority provide less notice than that provided to similarly affected customers within New York State.

V. Power and Energy Rates, Other Charges and Bond Covenant

- A. Base Rates: Firm Power and Energy associated with the Allocation shall be sold to Customer hereunder at rates for base commodity and TSC determined in accordance with ST AL - 1 attached hereto.
- B. Customer agrees to compensate Authority for all transmission costs incurred as set forth in ST AL – 1. Such charges or costs shall be in addition to the charges recovered through the base rates in ST AL – 1 for base commodity and TSC. Customer understands that delivery of the Allocation will be made over transmission facilities under the control of the NYISO, including those owned by Customer. Unless Customer provides Authority sixty (60) days written notice otherwise, Authority will act as the Load Serving Entity ("LSE") with respect to the NYISO, or arrange for another entity to do so on its behalf. Customer agrees and understands that it shall be responsible to Authority for all costs incurred by Authority with respect to the Allocation for the services established in the NYISO's applicable tariffs, as set forth in ST AL - 1, whether or not such charges are transmission-related. Such charges or costs shall be in addition to the charges recovered through the base rates in ST AL – 1 for base commodity and TSC.
- C. To the extent Authority incurs any taxes, assessments or other charges imposed by third parties associated with or attributable to the Allocation, Customer agrees to compensate Authority for all such costs incurred as set forth in ST AL - 1. Such charges or costs shall be in addition to the charges recovered through the base rates in ST AL – 1 for base commodity and TSC.
- D. Notwithstanding any provision of this Agreement to the contrary, the power and energy charges shall be subject to increase by Authority at any time upon 30 days prior written notice to Customer if, after consideration by Authority of its legal obligations, the marketability of the output or use of the Project and Authority's competitive position with respect to other suppliers, Authority determines in its discretion that increases in rates obtainable from any other Authority customers will not provide revenues, together with other available Authority funds not needed for operation and maintenance expenses, capital expenses, and reserves, sufficient to meet all requirements specified in Authority's bond and note resolutions and covenants with the holders of its financial obligations. Authority shall use its best efforts to inform Customer at the earliest practicable date of its intent to increase

the power and energy charges pursuant to this provision. Any rate increase to Customer under this subsection shall be on a non-discriminatory basis as compared to other Authority customers after giving consideration to the factors set forth in the first sentence of this subsection. With respect to any such increase, Authority shall forward to Customer with the notice of increase, an explanation of all reasons for the increase, and shall also identify the sources from which Authority will obtain the total of increased revenues and the bases upon which Authority will allocate the increased revenue requirements among its customers. Any such increase in rates shall remain in effect only so long as Authority determines such increase is necessary to provide revenues for the purposes stated in the preceding sentences.

VI. Hydropower Curtailments and Substitute Energy

- A. Firm Power and Energy. If hydraulic or hydrological conditions affecting the Hydro Projects require Authority to curtail the amount of Firm Power and Energy provided to Customer under this Agreement to an amount below such normal level, reductions shall be applied to all the firm power customers served from the Hydro Projects, including Customer, in proportion to their relative allocations of Firm Power and Energy from the Hydro Projects. Reductions as a percentage of the otherwise required Power and Energy deliveries will be the same for all firm Authority hydropower customers served from the Hydro Projects.
- B. Authority will provide Substitute Energy to the Customer to replace the hydroelectricity that would otherwise have been supplied.
 - 1. Billing for Substitute Energy. For each kilowatt-hour of Substitute Energy supplied by the Authority, in lieu of paying the base rates set forth in Section V.A. above, the Customer shall pay the Authority directly for: (a) the market cost of the Substitute Energy; and (b) all costs, including but not limited to any NYISO Charges and Taxes, the Authority incurs in connection with the provision of Substitute Energy. Billing and payment for Substitute Energy shall be governed by the Billing and Payments provision of Section 454.6 of the Rules and shall apply directly to the Substitute Energy service supplied to the Customer.
 - 2. Substitute Energy Provision Effect on Contract. All other provisions of the Agreement shall continue in effect with Substitute Energy being delivered in the same manner as would have otherwise been the case.

VII. Billing

Billing shall be performed in accordance with ST AL - 1.

VIII. Term, Termination of Service and Early Termination

- A. Service under the Agreement shall commence on October 1, 2015 and continue until the earliest of (a) termination by Authority pursuant to Part 454 of the Rules upon required notice, (b) termination by Authority pursuant to default provisions as described in Schedule A, or (c) March 31, 2019. Authority may cancel service hereunder or modify the quantities of power and energy associated with the Allocation only (a) if such cancellation or modification is required to comply with any unstayed ruling, order or decision of any regulatory or judicial body of competent jurisdiction (including any licensing or re-licensing order or orders of the FERC or its successor agency), or (b) as otherwise expressly provided herein or in the Rules.
- B. Customer may, for any reason, reduce or terminate service at any time on written notice given to Authority no less than sixty days (60) in advance, subject to the payment of liquidated damages to Authority in accordance with Schedule A of this Agreement unless such reduction or termination is the result of Force Majeure or breach of this Agreement by Authority.
- C. In the event that this Agreement is terminated, the Parties agree that (i) the Framework Agreement dated December 18, 2015 shall be deemed terminated as of the same date and (ii) such termination of this Agreement and the Framework Agreement shall not trigger the payment of liquidated damages under either this Agreement or the Framework Agreement unless the termination results from Customer's default under the provisions of Schedule A.

For avoidance of doubt, (i) the liquidated damages remedies provided in this Agreement are intended to include similar recoveries provided in the Grant Disbursement Agreement between Customer and Empire State Development ("ESD") dated December 18, 2015 and the Framework Agreement dated December 18, 2015, and the Authority and ESD collectively shall be entitled to recover such damages in full together only once and shall not be entitled to any duplicative recoveries.

IX. Notification

Correspondence involving the administration of this Agreement shall be addressed as follows:

To: Authority

Vice President – Marketing
POWER AUTHORITY OF THE STATE OF
NEW YORK
123 Main Street

White Plains, NY 10601

To: Customer

Alcoa Inc.
Attention: Vice President --
Energy 390 Park Avenue
New York, NY 10022-4608

With a copy to:

Alcoa Inc.
Attention: General Counsel
201 Isabella St.
Pittsburgh, PA 15212

X. Applicable Law

This Agreement shall be governed by and construed in accordance with the laws of the State of New York to the extent that such laws are not inconsistent with the FERC License.

XI. Successors and Assigns, No Resale of Allocation

This Agreement shall be binding upon, shall inure to the benefit of, and may be performed by, the legal successors and assigns of either Party hereto. Customer announced on September 28, 2015 that its board of directors had approved a plan to separate into two independent, publicly-traded companies (the "Separation") consisting of: (1) a company that will consist of the five business units that today make up Global Primary Products (the "Upstream Company"), and (2) a company that will include Global Rolled Products, Engineered Products and Solutions, and Transportation and Construction Solutions (the "Value-Add Company"). The Authority consents to the transfer, novation and/or assignment of Customer's rights and obligations under this Agreement to the Upstream Company or its affiliates in connection with or in anticipation of the Separation. Subject to acceptance of all provisions of this Agreement by any successor or assignee, any assignment of this Agreement by Customer shall only be to another entity that will utilize the Allocation for the same purposes and same location as such Allocation is utilized by Customer. If Customer is unable to or does not use any portion of its Allocation for any period of time, then any such unused Firm Power and Energy (and all rights attendant thereto) shall be subject to Service Tariff provisions, including Minimum Monthly Capacity Charge, and shall revert to Authority for its exclusive use until utilized by Customer and Customer shall have no right to sell, transfer, assign, monetize or otherwise use such unutilized power and energy.

XII. Supplementary Provision

Section 454.2(c) of the Rules is inapplicable to this Agreement.

XIII. Previous Agreements and Communications

This Agreement shall constitute the sole and complete agreement of the Parties hereto with respect to the sale, transmission and delivery of the Allocation and supersedes all prior agreements between the Parties, whether oral or written, including but not limited to the 2009 Agreement, the 2011 Supplemental Agreement and the 2014 Supplemental Agreement, and all previous communications between the Parties hereto, either oral or written, with reference to said Allocation. No modifications of this Agreement shall be binding upon the Parties hereto or either of them unless such modification is in writing and is signed by a duly authorized officer of each of them. In the event of any conflict between the provisions of this Agreement and the provisions of that certain Framework Agreement executed by each of the Parties and dated as of December 18, 2015, the provisions of this Agreement shall control.

XIV. Force Majeure

A. Events of Force Majeure. To the extent either Party is prevented by Force Majeure from carrying out, in whole or part, its obligations under this Agreement (the "Claiming Party"), the Claiming Party shall be excused from the performance of its obligations with respect to this Agreement (other than the obligation to make payments then due or becoming due with respect to performance prior to the Force Majeure). The non-Claiming Party shall not be required to perform or resume performance of its obligations to the Claiming Party corresponding to the obligations of the Claiming Party excused by Force Majeure. Failure to perform in whole or in part because of the occurrence of an event of Force Majeure shall not constitute a default hereunder or subject a Party to liability for any resulting loss or damage. The Parties agree to use their respective reasonable efforts to cure any event of Force Majeure to the extent that it is reasonably possible to do so, it being understood that no Party shall be required to make any concession or grant any demand or request in order to bring to an end any strike, lockout or other industrial disturbance where such course is deemed inadvisable in its sole discretion. Upon the occurrence of an event of Force Majeure, the Claiming Party shall promptly notify the non-Claiming Party of such events and shall specify in reasonable detail the facts constituting such events of Force Majeure.

B. "Force Majeure" Definition. "Force Majeure" means strikes or other labor troubles; shortage of labor, transportation, raw materials, energy sources, or failure of usual means of supply; fire; flood; war, declared or undeclared; insurrection; riots, acts of God or the public enemy; accidents to or breakdown or mechanical failure of machinery or equipment caused by an event of Force Majeure; "uncontrollable forces" as defined in Section 454.3(c) of the Rules; or any other

cause whatsoever whether or not of any nature of character mentioned above which is beyond the reasonable control of the affected Party and which affects the performance by the affected Party of the whole or part of its obligations under this Agreement. For the avoidance of doubt, Force Majeure shall not include (i) increased costs of performance or decline in revenues, including price disruption or deterioration in Customer's sale markets; (ii) Customer's inability economically to use the Allocation; (iii) defaults or non-performance by contractors or suppliers unless caused by Force Majeure; or (iv) unavailability of financing. Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment by NYISO unless such curtailment is due to Force Majeure.

C. In the event Customer is required to interrupt, suspend or limit production at the West Plant as a result of Force Majeure, the Authority may suspend or reduce scheduled Electric Service, as appropriate.

XV. Severability and Voidability

If any term or provision of this Agreement shall be invalidated, declared unlawful or ineffective in whole or in part by an order of the FERC or a court of competent jurisdiction, such order shall not be deemed to invalidate the remaining terms or provisions hereof.

Notwithstanding the preceding paragraph, if any provision of this Agreement is rendered void or unenforceable or otherwise modified by a court or agency of competent jurisdiction, the entire Agreement shall, at the option of either Party and only in such circumstances in which such Party's interests are materially and adversely impacted by any such action, be rendered void and unenforceable by such affected Party.

XVI. Counterparts

This Agreement may be executed in any number of counterparts, each of which will be an original, with the same effect as if the signatures thereto were upon the same instrument.

XVII. Effectiveness of Agreement

This Agreement shall become effective upon execution by both Parties.

AGREED:

ALCOA INC. (CUSTOMER)

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

BY: _____

Title: _____

Date: _____

(Seal)

Attest by: _____

SCHEDULE A

EMPLOYMENT AND SEPARATION PACKAGE COMMITMENTS, CUSTOMER CURTAILMENT, CUSTOMER TERMINATION AND LIQUIDATED DAMAGES

Section I. Customer Commitments

A. West Plant: During the Term, Customer will continue smelter operations at the West Plant in Massena, New York.

B. Customer Employee Separation:

(1) Voluntary Separation. Customer expects that approximately eighty (80) to one hundred (100) employees will receive severance or early retirement benefits ("Employee Separation") at the West Plant and Customer agrees to implement this Employee Separation by first offering a voluntary separation package to all employees, pursuant to the plan attached hereto as Appendix 1 to this Schedule A ("Voluntary Separation Package").

(2) Involuntary Separation. Customer will not use the involuntary separation methods described in Appendix 1 of this Schedule A ("Involuntary Separation Package", and together with the Voluntary Separation Package, the "Separation Packages") until employees have been given a reasonable period of time, and in no event less than twenty-one (21) days, to elect Voluntary Separation, provided that provided that the resultant employment level at the West Plant remains compliant with the employment commitment set forth in Section I (C) below.

C. Customer Employment Commitments: Once an employment level of six hundred (600) Full-Time Employees at the West Plant (the "Base Employment Level") is reached pursuant to the separation programs described in Section I (B) above, Customer shall not reduce employment further by utilizing voluntary separation packages or involuntary separation at the West Plant. As used herein, "Full-Time Employee" means a full-time, permanent, private-sector employee on Customer's payroll, working at the West Plant for a minimum of thirty-five hours per week for not less than four consecutive weeks who is entitled to receive the usual and customary fringe benefits extended by Customer to other employees with comparable rank and duties. The requirement that a Full-Time Employee shall be employed for not less than four consecutive weeks shall not apply to any employee hired to fill a Full-Time Employee vacancy resulting from a termination for cause.

The Authority acknowledges that following the Separation, all Upstream Company and Value-Add Company employees located at any Customer facility in Massena, New York will continue to be counted toward the Base Employment Level commitment of Customer set forth in this Agreement.

D. Maintenance of Base Employment Level. In the event that Customer employment at the West Plant falls below the Base Employment Level at any time due

to termination of employees for cause, Customer promptly, and in any event in not more than thirty (30) Business Days, will fill such Full-Time Employee vacancies with qualified persons following Customer's usual practice, by new hires, recall of previous employees who were involuntarily separated subject to recall rights or transfers of employees (provided such transfers are not from facilities located in New York State) having wages and benefits equivalent to existing workers at the West Plant of equivalent seniority.

E. Curtailed Locations. The Parties acknowledge that, on November 2, 2015, Customer announced that it would curtail its Intalco and Wenatchee primary aluminum smelters in Washington State and would partially curtail alumina refining capacity at its Pt. Comfort, Texas facility (the "Curtailed Locations"). Customer agrees that the Separation Packages to be offered to employees of the West Plant will be no less favorable to the employees than the voluntary and involuntary separation packages to be offered by Customer to employees of the Curtailed Locations. From the effective date of this Agreement until March 31, 2016, should Customer offer voluntary or involuntary separation packages to employees of any of the Curtailed Locations which are more favorable to the employees than the Separation Packages described in Appendix 1 of this Schedule A, Customer will amend the Separation Packages offered to the West Plant employees so that the resulting Separation Packages are equivalent to the separation packages offered to the employees of such Curtailed Locations.

F. Re-Training and Job Placement Services: Customer agrees to work with the New York State Department of Labor to ensure that all re-employment and training services and programs available through New York State and/or through New York State-sponsored programs will be provided to Customer employees affected by the Employee Separation. Such services will include job referral and career counseling services and résumé preparation as well as any job re-training programs which may be made available through New York State or the federal government.

G. Enhanced Voluntary Separation Benefit for Hourly Employees: Customer agrees that the Voluntary Separation Package to be offered to hourly employees of the West Plant will contain enhanced financial benefits and broader retirement eligibility when compared to the standard benefits to which the hourly employees of the West Plant would otherwise be entitled to had Customer not offered the Voluntary Separation Package.

H. Employment Records and Reports: A record shall be provided on a quarterly basis to Authority, of the total number of Full-Time Employees at Customer's facilities located at Massena, NY for each month, as reported to the United States Department of Labor (or as reported in such other record as agreed upon by Authority and the Customer). Such report shall be certified to be correct by the plant manager or such other person authorized by the Customer to prepare and file such report and shall be provided to Authority on or before the 15th day of the month following the end of the most recent calendar quarter. Authority shall have the right to examine and audit on reasonable advance written notice all non-confidential written and electronic records

and data concerning employment levels including, but not limited to, personnel records and summaries held by the Customer and its affiliates relating to employment in New York State.

I. Communications: The Parties agree to coordinate the timing and content of any public communications regarding this Agreement and the transactions contemplated hereby and Customer agrees that, prior to December 31, 2018, it will not make any announcements or other communications to the public, investors, or employees regarding any planned curtailment or employment reduction at the West Plant (except the Employee Separations described in Section I (C) above). Customer will use its best efforts to maintain the confidentiality of any planned curtailment or employment reduction at the West Plant prior to December 31, 2018 (the "Confidential Curtailment Information") and will not disclose to any person such Confidential Curtailment Information except (a) as reasonably required in planning for the orderly and prudent operation, curtailment or closure of the West Plant following the Term hereof, provided that any communications made to third parties shall be subject to a confidentiality agreement between Alcoa and such third party; (b) as required by any applicable law, governmental regulations, subpoena or other written demand made in accordance with applicable law or as required in connection with any legal proceedings arising from or in connection with this Agreement; or (c) to any legal advisor, accountant or auditor (but labeled "CONFIDENTIAL" if appropriate with any applicable claim of exemption from public disclosure pursuant to the New York Freedom of Information Law).

Section II. Liquidated Damages

In the event that (i) the Authority terminates this Agreement as a result of Customer's material breach of one or more of the covenants set forth in Section I (A), (B), (C), (D), (E) or (I) of this Schedule A and failure to cure such breach within thirty (30) days following receipt of written notice thereof from Authority or (ii) Customer terminates this Agreement for reasons other than Force Majeure or material breach by the Authority, then Customer shall pay to Authority, promptly upon demand, liquidated damages on a sliding scale as set forth in Appendix 2 of this Schedule A ("Liquidated Damages"). Such Liquidated Damages paid by Customer shall constitute full and final compensation to the Authority and ESD and no other payment or charge, including demand charges, shall be payable by Customer as a result of such termination, whether under this Agreement, the Framework Agreement dated December 18, 2015 or the ESD Grant Agreement dated December 18, 2015. Notwithstanding the foregoing, Liquidated Damages are not in lieu of (i) any outstanding payables or charges due under the Power Supply Agreement for electric capacity and energy provided by the Authority, including associated charges for transmission, taxes or other NYISO assessments, prior to termination or (ii) following termination of the Power Supply Agreement for any reason, any outstanding payable or charges for market rate charges for any electric capacity and energy provided by the Authority, including associated charges for transmission, taxes or other NYISO assessments, following such termination, which amounts shall separately remain due and payable.

APPENDIX 1 of SCHEDULE A

Separation Packages

Hourly Voluntary Separation Package (Pending USW Approval):

Hourly employees who, if eligible, elect to retire from Customer will receive an Enhanced Pension Benefit

- A provision that opens the pension window to increase the number of employees eligible for retirement
- A \$400 per month addition to the employees' pension payment until age 62
- Lump sum payment equal to \$10,000 plus \$400 per year of service

Hourly employees who elect to leave Customer but are not immediately eligible to retire will receive a lump sum payment equal to \$10,000 plus \$400 per year of service.

Hourly employees who accept a transfer to another Customer location are eligible for relocation benefits.

Hourly Involuntary Separation Package:

Hourly employees who are laid off are eligible for the following benefits.

- Supplemental Unemployment Benefit (SUB-pay) which equates to 28 hours of weekly pay (net of unemployment pay for 26 weeks) to employees for a time period based on their seniority, subject to labor agreement terms:
 - at least 2 years but less than 10 years of seniority - 52 weeks maximum
 - at least 10 years but less than 20 years of seniority - 78 weeks maximum
 - 20 or greater years of seniority - 104 weeks maximum
- Recall rights
- Health care benefits for a time period depending on seniority
 - at least 2 years but less than 10 years of seniority - 1 year
 - 20 or greater years of seniority — 2 years
- Career services will be offered

Salaried Voluntary Separation Package:

Salaried employees who elect to retire or leave Customer will receive a lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks. Salaried employees who accept a transfer to another Customer location are eligible for relocation benefits.

Salaried Involuntary Separation Package:

Salaried employees who are involuntarily separated from Customer will receive

- A lump sum payment equal to 4 weeks of base pay plus 2 weeks of pay for every year of service, up to a total maximum payout of 56 weeks
- Health care benefits for one year
- Career counseling services

APPENDIX 2 of SCHEDULE A

Liquidated Damages pursuant to Section II of this Schedule A ("Default")

Year	Quarter	Total LDs \$ (m)
2016	1	40
	2	37
	3	34
	4	31
2017	1	28
	2	25
	3	22
	4	19
2018	1	16
	2	13
	3	10
	4	7
2019	1	4

Schedule B

Service Tariff No. AL – 1



POWER AUTHORITY OF THE STATE OF NEW YORK
30 SOUTH PEARL STREET
ALBANY, NY 12207

Electric Service Tariff for Alcoa Inc.
Firm Hydroelectric Power Service

Service Tariff No. AL – 1

Date of Issue:

Date Effective:

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

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30 South Pearl Street, Albany, NY 12207

Schedule of Rates for Firm Hydroelectric Power Service

I. Applicability

This Service Tariff is applicable to the sale of firm hydroelectric power service produced by the Authority's St. Lawrence-FDR Project to Alcoa Inc. ("Alcoa" or "Customer") and as further defined in the Agreement.

II. Frequently Used Abbreviations and Terms

- kW kilowatt(s)
- kWh kilowatt-hour(s)
- MWh megawatt-hour(s)
- NYISO New York Independent System Operator, Inc. or any successor organization
- OATT NYISO Open Access Transmission Tariff
- PAL New York Public Authorities Law
- UCAP Unforced Capacity

Agreement: An executed agreement between the Authority and the Customer setting forth the terms and conditions applicable to the allocation and sale of firm hydroelectric power to the Customer, including an agreement entitled "Agreement for the Sale of Firm Hydroelectric Power and Energy from the St. Lawrence-FDR Power Project to Alcoa Inc."

Aluminum Price: Aluminum price derived as a reference point for assigning applicable base rates and is calculated as the sum of the London Metal Exchange and Midwest Aluminum Premium reference prices as further defined herein.

Authority: The Power Authority of the State of New York, a corporate municipal instrumentality and a political subdivision of the State of New York created pursuant to Chapter 772 of the New York Laws of 1931 and existing and operating under Title 1 of Article 5 of the PAL, also known as the "New York Power Authority" and "NYPA."

Billing Energy: This term has the meaning provided for in Section III.G.1 of this Service Tariff.

Billing Period: Any period of approximately thirty (30) days, generally ending with the last day of each calendar month but subject to the billing cycle requirements.

Capacity Tag: Capacity (kW) as expressed by the NYISO as the Unforced Capacity ("UCAP") obligation for a capability period. The UCAP obligation is inclusive of any adjustments for reserves needed to meet the installed reserve margin as required by the NYISO.

Contract Demand: This term has the meaning provided for in the Agreement.

Electric Service: The power and energy provided to the Customer in accordance with the Agreement, this Service Tariff and the Rules.

Firm Power and Energy: This term has the meaning provided for in Section IV.B. of this Service Tariff.

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Hydro Projects: Collective reference to the Project and Authority's Niagara Project, FERC Project No. 2216.

London Metal Exchange or LME: Center for industrial metals trading used as reference to derive Aluminum Prices within this Service Tariff. Specifically, the LME component used in calculating the Aluminum Price for a particular month (M) shall be the average LME Cash Buyer's Price for the month prior (M-1).

Load Serving Entity or LSE: This term has the meaning provided for in the Agreement.

Load Factor Share: Methodology used to determine firm hydroelectric Billing Energy share of the total Native System Load as further defined in Section III.G.1 of this Service Tariff.

Midwest Aluminum Premium or MWP: Midwest U.S. Premium price published by Platts, converted to dollars per metric tonne (\$/metric tonne), in addition to LME aluminum price, used to derive Aluminum Prices within this Service Tariff. Specifically, the MWP component used in calculating the Aluminum Price for a particular month (M) shall be the average MWP for the month prior (M-1).

Minimum Monthly Capacity Charge: This term has the meaning provided for in Section III.D.1 of this Service Tariff.

Native System: Customer's electric system at Park Avenue East ("West Plant"), Massena, New York 13662.

Native System Load: Total consumption within the boundaries of the Customer's electric system, as determined by the Authority's revenue-grade metering equipment. This includes incoming bilateral energy, market purchases taken from the transmission grid, and internal generation. The coincident sum of all incoming power and internal generation minus the outgoing power being sent back to the transmission grid will be considered the Native System Load and will be the value used to calculate the monthly Native System Load Factor.

Native System Load Factor: Percent value calculated every Billing Period as follows: (Native System Load) ÷ [(Peak Demand) * (# of Hours in the Billing Period)].

NYISO Tariffs: The tariffs of the NYISO, including the NYISO OATT, as such tariffs are amended and in effect from time to time.

Peak Demand: The highest coincident sixty (60) minute integrated demand of the Native System Load measured during the Billing Period and expressed in kW.

Project: The Authority's St. Lawrence-FDR Power Project.

Rural/Domestic Rate: Rates charges by the Authority for the sale of hydroelectricity for the benefit of rural and domestic customers receiving service in accordance with the Niagara Redevelopment Act, 16 U.S.C. § 836(b)(1) and PAL §1005(5).

Rules: The Authority's rules and regulations set forth in Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York as may be modified from time to time by the Authority.

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30 South Pearl Street, Albany, NY 12207

Service Tariff: This service tariff, denominated as “Electric Service Tariff for Alcoa Inc. Firm Hydroelectric Power Service, Service Tariff No. AL - 1,” as amended from time to time by the Authority.

Substitute Energy: Energy the Authority procures and sells to the Customer to replace Firm Power and Energy that would otherwise have been sold to the Customer but for a curtailment made in accordance with the Agreement and this Service Tariff.

Taxes: This term has the meaning provided for in Section III.D.2 of this Service Tariff.

Transmission Service Charge or TSC: The NYPA Transmission Service Charge as provided for and defined in the NYISO OATT.

Additional terms are defined in the text of this Service Tariff.

Unless otherwise indicated, all other capitalized terms and abbreviations used but not defined in this Service Tariff shall have the meaning as set forth in the Agreement. In the event that publication of any index price utilized in this Tariff, including the LME Cash Buyer’s Price or Platt’s Midwest Aluminum Premium, is discontinued or the methodology for determination thereof is substantially revised, the Parties will meet and discuss in good faith the amendment of the Tariff by substitution of an alternative index or other alternative means of determination of pricing most closely approximating their original intent.

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30 South Pearl Street, Albany, NY 12207

III. Base Rates and Related Matters

A. Base Rates

1. Subject to the other provisions of this Service Tariff, the base rates to be charged to the Customer by the Authority shall be tied directly to Aluminum Prices as follows:

Aluminum Price (\$/metric ton)	Base Rate (\$/MWh)
Below 1,500	12.25
1,500 - 1,799	12.25
1,800 - 1,899	14.00
1,900 - 1,999	15.75
2,000 - 2,099	17.50
2,100 - 2,199	19.25
2,200 - 2,299	21.00
2,300 - 2,399	22.75
2,400 - 2,499	24.50
2,500 - 2,599	26.25
2,600 - 2,699	28.00
2,700 - 2,799	29.75
2,800 - 2,899	31.50
2,900 - 2,999	33.25
3,000 - 3,099	35.00
3,100 - 3,199	36.75
3,200 - 3,299	38.50
3,300 - 3,399	40.25
3,400 and above	42.00

The base rates, as set forth above, include a monthly base rate for commodity, and a base Transmission Service Charge valued at \$1.75/MWh at a ninety-eight (98) percent load factor, both of which are subject to monthly billing adjustments for full cost recovery at the Customer Native System Load Factor, as per Sections III.E. and III.C. of this Service Tariff.

B. NYISO Transmission and Related Charges (“NYISO Charges”)

The Customer shall compensate the Authority for the following NYISO Charges assessed on the Authority for services provided by the NYISO pursuant to the NYISO Tariffs associated with providing Electric Service to the Customer:

1. Charges for OATT Rate Schedules 1 through 9 and any new ancillary services and/or rate schedules as may be provided in accordance with the NYISO Tariffs;
2. Transmission Usage Charges (“TUC”) which are Marginal Losses and Congestion costs as provided for in the NYISO Tariffs;
3. The New York Power Authority “Transmission Adjustment Charge” or “NTAC” as provided for in the NYISO Tariffs;
4. NYISO wide uplift as provided for in the NYISO Tariffs;
5. Any and all other charges, assessments, or other amounts associated with delivery of Firm Power and Energy sold to the Customer by the Authority, or otherwise associated

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with the Authority's responsibilities as a Load Serving Entity for the Customer, that the NYISO assesses on the Authority under the provisions of the NYISO Tariffs; and

6. Any charges assessed on the Authority with respect to the provision of Electric Service to the Customer for facilities needed to maintain reliability and incurred in connection with the NYISO's Comprehensive System Planning Process (or similar reliability-related obligations incurred by the Authority with respect to Electric Service to the Customer), applicable tariffs, or required to be paid by the Authority in accordance with law, regardless of whether such charges are assessed by the NYISO or another third party.

The NYISO Charges, if any, incurred by the Authority on behalf of the Customer, are in addition to the Authority's base rates that are charged to the Customer in accordance with other provisions of this Service Tariff.

The method of billing NYISO Charges to the Customer will be based on the Authority's discretion.

C. Transmission Charges and Monthly TSC Reconciliation

The Customer shall compensate the Authority for all transmission costs incurred by the Authority with respect to the Allocation, including such costs that are charged pursuant to the NYISO Tariffs. Any difference between TSC costs recovered through the base rates as set forth in Section III.A.1 of this Service Tariff and actual TSC costs shall be reconciled on a monthly basis by the Authority. The difference of any under collection or over collection of the TSC costs shall be passed through to the Customer on the bill.

D. Other Charges

The base rates do not reflect any of the charges discussed in this Section III.D. (collectively, "Other Charges"). The Customer shall be responsible for payment of such Other Charges as a separate charge from base rates to the extent they apply to the Customer.

1. Minimum Monthly Capacity Charge

If in any given month the Customer's monthly Peak Demand (kW) is less than the Capacity Tag, the Customer shall be subject to a Minimum Monthly Capacity Charge equal to the difference between the Customer's monthly Peak Demand (kW) and the Capacity Tag as expressed by the NYISO for the applicable month, times the applicable NYISO locational capacity spot auction market rate.

Such Minimum Monthly Capacity Charge shall be in addition to all other charges provided for in this Service Tariff, including but not limited to, charges included in the base rates and NYISO Charges as provided for in this Service Tariff.

2. Taxes

The Authority will charge and collect from the Customer all local, state and federal taxes, assessments or other charges mandated by local, state or federal agencies or authorities that are levied on the Authority or that the Authority is required to collect from the Customer ("Taxes") if and to the extent such Taxes are not recovered by the Authority pursuant to another provision of this Service Tariff.

3. Curtailments and Substitute Energy

Firm Power and Energy is subject to curtailment as provided for in the Agreement and Section IV.C. of this Service Tariff. The Authority shall provide Substitute Energy to the

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Customer, and the Customer shall pay the Authority for Substitute Energy, in accordance with the Agreement and Section IV.C. of this Service Tariff.

E. Niagara and St. Lawrence-FDR Hydroelectric Rates

The base rates, as set forth in Section III.A. of this Service Tariff, include both commodity and TSC related charges. At all times the commodity component of the base rate (base rate less the TSC rate) shall be no lower than the overall Rural/Domestic Rate (Rural/Domestic Rates computed at the Customer Native System Load Factor). For each Billing Period, if the commodity component of the base rate is lower than the overall Rural/Domestic Rate, the difference between the commodity component of the base rate and the overall Rural/Domestic Rate will be added to the base rate. Concurrently, for each Billing Period, if the commodity component of the base rate is equal to or greater than the overall Rural/Domestic Rate, the base rates, as set forth in Section III.A. of this Service Tariff, will be the month's applicable billing rates, without adjustment.

F. New Charges

The Customer shall be responsible for payment of any and all new third-party charges incurred by the Authority and attributable to its provision of Electric Service to the Customer, including but not limited to, charges and costs incurred for supplying Firm Power and Energy, any new NYISO Charges as may be defined and applied in any NYISO Tariffs, NYISO-related agreements and NYISO procedures from time to time (collectively, "New Charges"). The Authority, in its sole discretion, may include any such New Charges in the base rates or bill the Customer separately for such New Charges.

G. Billing and Billing Methodology

Unless otherwise specified in the Agreement, the following provisions will apply:

1. Billing Energy

The kilowatt-hours (kWh) charged by the Authority to the Customer will be based on the Load Factor Share of the total number of kilowatt-hours recorded on the Authority's revenue grade meters for the Billing Period as follows.

- If the Peak Demand is higher than the Contract Demand in a given month, the Billing Energy shall be equal to the product of the Contract Demand multiplied by the Native System Load Factor and number of hours in the Billing Period.
- If the Peak Demand is less than the Contract Demand, the Billing Energy shall be equal to the total number of kilowatt-hours recorded on the Authority's revenue grade meters for the Billing Period.

2. Scheduling and Settlements of Load

Each hour the Authority will schedule the Customer's load for the full Contract Demand. Any resulting overscheduled load, as reported as Balancing Energy Sell transactions by the NYISO, shall not be reflected on the Customer's bill as there is no entitlement to said transaction. The Customer is encouraged to voluntarily provide an hourly load schedule each month to the Authority. The Customer is required to provide any planned or unplanned outage information to the Authority in a timely manner as follows; the Customer shall provide a minimum of three (3) business days' notice to the Authority when planned load reductions greater than five (5%) percent of the Contract Demand are to occur in excess of a one hour interval. The customer is required to provide any

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unplanned outage information in excess of a one hour interval to the Authority within no less than three (3) business days of the occurrence.

3. Market Purchases

If in any given hour during a Billing Period the Customer load requirements exceed the Customer's Contract Demand (reported as Balancing Energy Purchase transactions), these purchases shall be reflected on the Customer's bill including, but not limited to, TSC charges for the Market Purchase share.

4. Estimated Billing

If the Authority, in its reasonable discretion, determines that it lacks reliable data on the Customer's actual energy usage for a Billing Period during which the Customer receives electric service from the Authority, the Authority shall have the right to render a bill to the Customer for such Billing Period based on estimated usage ("Estimated Bill").

For the purpose of calculating an Estimated Bill, the Billing Energy used in the base charge calculation shall be equal to the Contract Demand (kW) amount as defined in the Agreement at ninety-eight (98) percent load factor for that Billing Period.

If data indicating the Customer's actual usage for any Billing Period in which an Estimated Bill was rendered subsequently becomes available to the Authority, the Authority will make necessary adjustments to the corresponding Estimated Bill in accordance with Section III.H.1 of this Service Tariff and, as appropriate, render a revised bill (or provide a credit) to the Customer.

The Authority's discretion to render Estimated Bills is not intended to limit the Authority's rights under the Agreement or otherwise regarding metering arrangements.

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H. Adjustments to Charges

1. Billing Adjustments

In addition to any other adjustments provided for in this Service Tariff, in any Billing Period, the Authority may make appropriate adjustments to billings and charges to address such matters as billing and payment errors, the receipt of actual, additional, or corrected data concerning Customer energy usage.

2. Power Factor

For service provided under this and any other Service Tariff or agreement Customer shall maintain not less than ninety-seven and one-half percent (97.5%) power factor at the point of delivery. The Customer's Peak Demand under this Service Tariff will be increased one-half percent (1/2%) for each one-half percent (1/2%) by which the average power factor at which energy is supplied during such Billing Period is less than ninety-seven and one-half percent (97.5%). Average power factor will be computed to the nearest one-half percent (1/2%) according to the following formula:

$$\text{Average Power Factor} = \frac{kWh}{\sqrt{kWh^2 + kvar h^2}}$$

The data used in the above formula shall be obtained from meters which are ratcheted to prevent reverse registration.

3. Adjustment for Transformer Losses

If delivery is made at a transmission voltage but metered on the low-voltage side of Customer's substation, the meter readings will be increased by two percent (2%) to compensate for transformer losses; provided, however, that this percentage may be reduced to reflect improvements in loss rates should new transformers be put in use at Customer's plants.

I. Adjustment of Rates

To the extent consistent with the Agreement between the Authority and the Customer, the base rates contained in this Service Tariff may be revised from time to time as set forth in Section III.E. of this Service Tariff or in order to meet all requirements specified in its bond and note resolutions and covenants with holders of its financial obligations. Should the Authority need to adjust the base rates, the Authority will provide thirty (30) days written notice to the Customer.

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30 South Pearl Street, Albany, NY 12207

IV. General Provisions

A. Character of Service

Alternating current; 60 hertz, three-phase.

B. Firm Power Service

Firm Power and Energy under this Service Tariff are hydropower and associated energy intended to be available at all times except for limitations provided in the Agreement, the Rules and in this Service Tariff.

C. Availability of Energy

1. Subject to Section IV.C.2 of this Service Tariff, the Authority shall provide to the Customer in any Billing Period Firm Power and Energy.
2. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of the Authority's Firm Power and Energy customers served from the Hydro Projects, curtailments in the amount of Firm Power and Energy to which the Customer is entitled under the Agreement will be applied on a pro rata basis to all Firm Power and Energy customers served by the Hydro Projects. Reductions as a percentage of the otherwise required Firm Power and Energy sales will be the same for all Firm Power and Energy customers served by the Hydro Projects.
3. The Authority will provide Substitute Energy to the Customer to replace the Firm Power and Energy that would otherwise have been supplied under this Agreement but for the curtailment. For each kilowatt-hour of Substitute Energy supplied by the Authority, in lieu of paying the base rates set forth in Section III.A. above, the Customer shall pay the Authority directly for: (a) the market cost of the Substitute Energy; and (b) all costs, including but not limited to any NYISO Charges and Taxes, the Authority incurs in connection with the provision of Substitute Energy.
4. The Authority will give the Customer advance notice of forecasted shortfalls in Firm Power and Energy which will advise the Customer of the forecasted shortfall of Firm Power and Energy, the period to which the forecast applies (usually a Billing Period), and the Customer's anticipated share of the forecasted shortfall. After the Billing Period to which the notice applies, the Authority will determine after the fact the actual shortfall and make any appropriate adjustments to charges and billings to the Customer in accordance with the rates provided for in this Service Tariff.
5. The Authority is under no obligation to supply and will not supply to the Customer in later Billing Periods any curtailed Firm Power and Energy.

D. Delivery

For the purpose of this Service Tariff, power shall be deemed to be offered when the Authority is able to supply power and NYISO transmits it to its designated points of interconnection with the Customer's transmission agent(s). If, despite such offer, there is a failure of delivery by the Customer or the transmission agents(s), such failure shall not be subject to a billing adjustment pursuant to Section 454.6(d) of the Rules.

E. Electrical Fluctuations

The power and energy taken hereunder shall not be used in such a manner as to cause unusual fluctuations or disturbances on Authority's system. Customer shall provide, at its expense,

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suitable apparatus which will reasonably limit such fluctuations. In the event that unreasonable fluctuations or disturbances, including without limitation harmonic currents resulting in actionable interference with communications systems or in harmonic resonance of now existing facilities, are caused by Customer's facilities, Authority shall immediately notify Customer of the circumstances and Authority shall then have the right to discontinue the delivery of power and energy under this contract upon thirty (30) days prior written notice until conditions causing such fluctuations or disturbances are corrected by Customer. Despite such discontinuance of service Customer shall be obligated to pay the amounts due for Electrical Service under this Service Tariff.

F. Rendition and Payment of Bills

1. The Authority will render bills to the Customer for Electric Service on or before the twentieth (20th) calendar day of the month for charges due for the previous Billing Period. Bills will reflect the amounts due and owing, and are subject to adjustment as provided for in this Agreement, Service Tariff No. AL-1 and the Rules. Unless otherwise agreed to by the Authority and the Customer in writing, the Authority shall render bills to the Customer electronically.
2. Payment of bills by the Customer shall be due and payable by the Customer by the first day of the following month of the date the Authority renders the bill. Payment of bills by the Customer shall be paid through the means as directed on the bill.
3. Except as otherwise agreed by the Authority in writing, if the Customer fails to pay any bill when due, an interest charge of two percent (2%) of the amount unpaid will be added thereto as liquidated damages, and thereafter, as further liquidated damages, an additional interest charge of one and one-half percent (1.5%) of the sum unpaid shall be added on the first day of each succeeding Billing Period until the amount due, including interest, is paid in full.
4. Unless otherwise agreed to by the Authority and the Customer in writing, in the event the Customer disputes any item of a bill rendered by Authority, the Customer shall pay such bill in the time provided for by this Agreement, and adjustments, if necessary, will be made thereafter.
5. If at any time after commencement of Electric Service the Customer fails to make complete payment of any two (2) bills for Electric Service when such bills become due pursuant to Agreement, the Authority shall have the right to require that the Customer deposit with the Authority a sum of money, or provide an irrevocable standby letter of credit, which may be presented for draw at a location in New York State, issued for benefit of the Authority by a bank having a Standard and Poor's long-term issuer rating of "A" or better, or an equivalent rating by Moody's, or Fitch's, and acceptable to the Authority in its reasonable discretion, in either case in an amount equal to all charges that would be due under this Agreement for Electric Service for two (2) consecutive calendar months as estimated by the Authority. Such deposit or standby letter of credit will be deemed security for the payment of unpaid bills. The failure or refusal of the Customer to provide the deposit or standby letter of credit within thirty (30) days of a request made by the Authority consistent with this paragraph will be grounds for the Authority in its sole discretion to suspend Electric Service to the Customer or terminate this Agreement.

G. Conflicts

In the event of any inconsistencies, conflicts, or differences between the provisions of this Service Tariff and the Rules, the provisions of the Service Tariff will govern. In the event of any

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inconsistencies, conflicts or differences between the Service Tariff and any provisions of the Agreement, the provisions of the Agreement will govern.

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30 South Pearl Street, Albany, NY 12207

Date Effective:

Exhibit Number	Company Name	Program	Town	County	Base Jobs	New Jobs	Estimated Capital Investment	New Jobs Avg. Wage & Benefits	Power Requested (kW)	Power Recommended (kW)	Contract Term
A-1	1366 Technologies Inc.	RP	Alabama	Genesee	0	150	\$103,500,000	\$67,068	8,500	8,500	7 Years
	Totals					150	\$103,500,000			8,500	

APPLICATION SUMMARY
Replacement Power

Company:	1366 Technologies Inc.
Project Location:	Town of Alabama
County:	Genesee
IOU:	National Grid
Business Activity:	Producer of silicon wafers for solar industry
Project Description:	The applicant is considering the construction of a new, 130,000-square-foot silicon wafer production facility in the Western New York Science & Technology Advanced Manufacturing Park ("STAMP") in the Town of Alabama in Genesee County.
Existing Allocation(s):	None
Power Request:	8,500 kW
Power Recommended:	8,500 kW
Job Commitment:	
Base:	0 jobs
New:	At least 150 jobs
New Jobs/Power Ratio:	18 jobs/MW
New Jobs - Avg. Wage and Benefits:	\$67,066
Capital Investment:	At least \$103.5 million
Capital Investment/MW:	\$12.18 million/MW
Other ED Incentives:	Support from Empire State Development, the New York State Energy, Research & Development Authority, New York State Homes & Community Renewal and the Genesee County Economic Development Center.
Summary:	1366 Technologies Inc. is considering a long-term, three-phase plan in Western New York to produce silicon wafers. Phase 1A would produce 60-65 million wafers annually which could support the generation of 250 MW of solar power. Phase 1A would result in the creation of 150 highly-skilled jobs and involve an overall investment of \$103.5 million. Construction is expected to begin in June 2016.

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Replacement Power

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December 17, 2016
Exhibit 7b-B

POWER AUTHORITY

OF THE

STATE OF NEW YORK

30 South Pearl Street
10th Floor
Albany, New York 12207-3425

AGREEMENT FOR THE SALE
OF EXPANSION POWER AND/OR REPLACEMENT POWER
To

1366 TECHNOLOGIES INC.

The POWER AUTHORITY OF THE STATE OF NEW YORK ("Authority"), created pursuant to Chapter 772 of the New York Laws of 1931 and existing under Title I of Article V of the New York Public Authorities Law ("PAL"), having its office and principal place of business at 30 South Pearl Street, 10th Floor, Albany, New York 12207-3425, hereby enters into this Agreement for the Sale of Expansion Power and/or Replacement Power ("Agreement") with 1366 Technologies Inc. ("Customer") with offices and principal place of business at _____. The Authority and the Customer are from time to time referred to in this Agreement as "Party" or collectively as "Parties" and agree follows:

RECITALS

WHEREAS, the Authority is authorized to sell hydroelectric power produced by the Niagara Power Project, Federal Energy Regulatory Commission ("FERC") Project No. 2216, known as "Expansion Power" (or "EP"), as further defined in this Agreement, to qualified businesses in New York State in accordance with PAL § 1005(5) and (13);

WHEREAS, the Authority is authorized to sell hydroelectric power produced by the Niagara Power Project, FERC Project No. 2216, known as "Replacement Power" (or "RP"), as further defined in this Agreement, to qualified businesses in New York State in accordance with PAL § 1005(5) and (13);

WHEREAS, EP consists of 250 megawatts ("MW") of firm hydroelectric power and associated firm energy produced by the Niagara Power Project;

WHEREAS, RP consists of 445 MW of firm hydroelectric power and associated firm energy produced by the Niagara Power Project;

WHEREAS, the Authority is authorized pursuant to PAL § 1005(13)(a) to award EP and/or RP based on, among other things, the criteria listed in the PAL, including but not limited to an applicant's long-term commitment to the region as evidenced by the current and planned capital investment; the type and number of jobs supported or created by the allocation; and the state, regional and local economic development strategies and priorities supported by local units of governments in the area in which the recipient's facilities are located;

WHEREAS, the Customer applied to the Authority for an allocation of hydropower to support operations at a new and/or expanded facility to be constructed and operated by the Customer (defined in Section I of this Agreement as the "Facility");

WHEREAS, on December 17, 2015, the Authority's Board of Trustees ("Trustees") approved a 8,500 kilowatt ("kW") allocation of RP to the Customer for a seven (7) year term (defined in Section I of this Agreement as the "Allocation") in connection with the construction and operation of the Facility as further described in this Agreement;

WHEREAS, on December 17, 2015, the Trustees authorized the Authority to, among other things, take any and all actions and execute and deliver any and all agreements and other documents necessary to effectuate its approval of the Allocation;

WHEREAS, the provision of Electric Service associated with the Allocation is an

unbundled service separate from the transmission and delivery of power and energy to the Customer, and delivery service will be performed by the Customer's local electric utility in accordance with the Utility Tariff;

WHEREAS, the Parties have reached an agreement on the sale of the Allocation to the Customer on the terms and conditions provided for in this Agreement;

WHEREAS, the Authority has complied with requirements of PAL § 1009 which specifies the approval process for certain contracts negotiated by the Authority; and

WHEREAS, the Governor of the State of New York has approved the terms of this Agreement pursuant to PAL § 1009(3).

NOW THEREFORE, in consideration of the mutual covenants herein, the Authority and the Customer agree as follows:

NOW THEREFORE, the Parties hereto agree as follows:

I. Definitions

- A. **Agreement** means this Agreement.
- B. **Allocation** refers to the allocation of EP and/or RP awarded to the Customer as specified in Schedule A.
- C. **Contract Demand** is as defined in Service Tariff No. WNY-1.
- D. **Electric Service** is the Firm Power and Firm Energy associated with the Allocation and sold by the Authority to the Customer in accordance with this Agreement, Service Tariff No. WNY-1 and the Rules.
- E. **Expansion Power (or EP)** is 250 MW of Firm Power and associated Firm Energy from the Project eligible to be allocated by the Authority for sale to businesses pursuant to PAL § 1005(5) and (13).
- F. **Facility** means the Customer's facilities as described in Schedule A to this Agreement.
- G. **Firm Power** is as defined in Service Tariff No. WNY-1.
- H. **Firm Energy** is as defined in Service Tariff No. WNY-1.
- I. **FERC** means the Federal Energy Regulatory Commission (or any successor organization).
- J. **FERC License** means the first new license issued by FERC to the Authority for the continued operation and maintenance of the Project, pursuant to Section 15 of the Federal Power Act, which became effective September 1, 2007 after expiration of the Project's original license which became effective in 1957.

- K. **Hydro Projects** is a collective reference to the Project and the Authority's St. Lawrence-FDR Project, FERC Project No. 2000.
- L. **Load Serving Entity** (or **LSE**) means an entity designated by a retail electricity customer (including the Customer) to provide capacity, energy and ancillary services to serve such customer, in compliance with NYISO Tariffs, rules, manuals and procedures.
- M. **NYISO** means the New York Independent System Operator or any successor organization.
- N. **NYISO Tariffs** means the NYISO's Open Access Transmission Tariff or the NYISO's Market Administration and Control Area Services Tariff, as applicable, as such tariffs are modified from time to time, or any successor to such tariffs.
- O. **Project** means the Niagara Power Project, FERC Project No. 2216.
- P. **Replacement Power** (or **RP**) is 445 MW of Firm Power and associated Firm Energy from the Project eligible to be allocated by the Authority for sale to businesses pursuant to PAL § 1005(5) and (13).
- Q. **Rules** are the applicable provisions of Authority's rules and regulations (Chapter X of Title 21 of the Official Compilation of Codes, Rules and Regulations of the State of New York), as may be modified from time to time by the Authority.
- R. **Service Tariff No. WNY-1** means the Authority's Service Tariff No. WNY-1, as may be modified from time to time by the Authority, which contains, among other things, the rate schedule establishing rates and other commercial terms for sale of Electric Service to Customer under this Agreement.
- S. **Schedule A** refers to the Schedule A entitled "Expansion Power and/or Replacement Power Allocations" which is attached to and made part of this Agreement.
- T. **Schedule B** refers to the Schedule B entitled "Expansion Power and/or Replacement Power Commitments" which is attached to and made part of this Agreement.
- U. **Schedule C** refers to the Schedule C entitled "Takedown Schedule" which is attached to and made part of this Agreement.
- V. **Substitute Energy** means energy that the Authority provides at the request of the Customer to replace hydroelectricity that would otherwise have been supplied to the Customer under this Agreement. Unless otherwise agreed upon by the Parties, Substitute Energy refers to energy purchased by the Authority for the Customer from markets administered by the NYISO.
- W. **Taxes** is as defined in Service Tariff No. WNY-1

- X. **Unforced Capacity (or "UCAP")** means the electric capacity required to be provided by LSEs to serve electric load as defined by the NYISO Tariffs, rules, manuals and procedures.
- Y. **Utility Tariff** means the retail tariff(s) of the Customer's local electric utility filed and approved by the PSC applicable to the delivery of EP and/or RP.

II. Electric Service

- A. The Authority shall make available Electric Service to enable the Customer to receive the Allocation in accordance with this Agreement, Service Tariff No. WNY-1 and the Rules. The Customer shall not be entitled to receive Electric Service under this Agreement for any EP and/or RP allocation unless such EP and/or RP allocation is identified on Schedule A.
- B. The Authority will provide, and the Customer shall pay for, Electric Service with respect to the Allocation specified on Schedule A. If Schedule C specifies a Takedown Schedule for the Allocation, the Authority will provide, and the Customer shall take and pay for, Electric Service with respect to the Allocation in accordance with such Takedown Schedule.
- C. The Authority shall provide UCAP in amounts necessary to meet the Customer's NYISO UCAP requirements associated with the Allocation in accordance with the NYISO Tariffs. The Customer shall be responsible to pay the Authority for such UCAP in accordance with Service Tariff No. WNY-1.
- D. The Customer acknowledges and agrees that Customer's local electric utility shall be responsible for delivering the Allocation to the Facility specified in Schedule A, and that the Authority has no responsibility for delivering the Allocation to the Customer.
- E. The Contract Demand for the Customer's Allocation may be modified by the Authority if the amount of Firm Power and Firm Energy available for sale as EP or RP from the Project is modified as required to comply with any ruling, order, or decision of any regulatory or judicial body having jurisdiction, including but not limited to FERC. Any such modification will be made on a pro rata basis to all EP and RP customers, as applicable, based on the terms of such ruling, order, or decision.
- F. The Contract Demand may not exceed the Allocation.

III. Rates, Terms and Conditions

- A. Electric Service shall be sold to the Customer based on the rates, terms and conditions provided for in this Agreement, Service Tariff No. WNY-1 and the Rules.
- B. Notwithstanding any provision of this Agreement to the contrary, the power and energy rates for Electric Service shall be subject to increase by Authority at any time upon 30 days prior written notice to Customer if, after consideration by Authority of its legal obligations, the marketability of the output or use of the Project and Authority's

competitive position with respect to other suppliers, Authority determines in its discretion that increases in rates obtainable from any other Authority customers will not provide revenues, together with other available Authority funds not needed for operation and maintenance expenses, capital expenses, and reserves, sufficient to meet all requirements specified in Authority's bond and note resolutions and covenants with the holders of its financial obligations. Authority shall use its best efforts to inform Customer at the earliest practicable date of its intent to increase the power and energy rates pursuant to this provision. Any rate increase to Customer under this subsection shall be on a non-discriminatory basis as compared to other Authority customers after giving consideration to the factors set forth in the first sentence of this subsection. With respect to any such increase, Authority shall forward to Customer with the notice of increase, an explanation of all reasons for the increase, and shall also identify the sources from which Authority will obtain the total of increased revenues and the bases upon which Authority will allocate the increased revenue requirements among its customers. Any such increase in rates shall remain in effect only so long as Authority determines such increase is necessary to provide revenues for the purposes stated in the preceding sentences.

IV. Expansion Power and/or Replacement Power Commitments

- A. Schedule B sets forth the Customer's specific "Expansion Power and/or Replacement Power Commitments." The commitments agreed to in Schedule B are in addition to any other rights and obligations of the Parties provided for in the Agreement.
- B. The Authority's obligation to provide Electric Service under this Agreement, and the Customer's obligation to take and pay for such Electric Service, are expressly conditioned upon the Customer's timely completion of the commitments described in Schedule B.
- C. In the event of partial completion of the Facility which has resulted in such Facility being partly operational and the partial attainment of the Base Employment Level, the Authority may, upon the Customer's request, provide Electric Service to the Customer in an amount determined by the Authority to fairly correspond to the completed portion of the Facility, provided that the Customer demonstrates that the amount of requested Electric Service is needed to support the operations of the partially completed Facility.
- D. The Customer shall give the Authority not less than ninety (90) days' advance notice in writing of the anticipated date of partial or full completion of the Facility. The Authority will inspect the Facility for the purpose of verifying the completion status of the Facility and notify Customer of the results of the inspection. The Authority will thereafter commence Electric Service within a reasonable time after verification based on applicable operating procedures of the Authority, the Customer's local electric utility and the NYISO.
- E. In the event the Customer fails to complete the Facility by December 17, 2018 (*i.e.*, within three (3) years of the Authority's award of the Allocation), the Allocation, at the option and discretion of the Authority, may be canceled or reduced by the total amount of kilowatts determined by the Authority to fairly correspond to the uncompleted portion of the Facility, provided that in such event, and upon request of the Customer, such date may be extended by the Authority in its sole discretion.

V. Rules and Service Tariff

Service Tariff No. WNY-1, as may be modified or superseded from time to time by the Authority, is hereby incorporated into this Agreement with the same force and effect as if set forth herein at length. In the event of any inconsistencies, conflicts, or differences between the provisions of Service Tariff No. WNY-1 and the Rules, the provisions of Service Tariff No. WNY-1 shall govern. In the event of any inconsistencies, conflicts or differences between the provisions of this Agreement and Service Tariff No. WNY-1, the provisions of this Agreement shall govern.

VI. Transmission and Delivery of Firm Power and Firm Energy; Responsibility for Charges

- A. The Customer shall be responsible complying with all requirements of its local electric utility that are necessary to enable the Customer to receive delivery service for the Allocation. Delivery of the Allocation shall be subject to the Utility Tariff.
- B. The Customer shall be solely responsible for paying its local electric utility for delivery service associated with the Allocation in accordance with the Utility Tariff. Should the Authority incur any charges associated with such delivery service, the Customer shall reimburse the Authority for all such charges.
- C. The Customer understands and acknowledges that delivery of the Allocation will be made over transmission facilities under the control of the NYISO. The Authority will act as the LSE with respect to the NYISO, or arrange for another entity to do so on the Authority's behalf. The Customer agrees and understands that it shall be responsible to the Authority for all costs incurred by the Authority with respect to the Allocation for the services established in the NYISO Tariff, or other applicable tariff ("NYISO Charges"), as set forth in Service Tariff No. WNY-1 or any successor service tariff, regardless of whether such NYISO Charges are transmission-related. Such NYISO Charges shall be in addition to the charges for power and energy.
- D. By entering into this Agreement, the Customer consents to the exchange of information between the Authority and the Customer's local electric utility pertaining to the Customer that the Authority and the local electric utility determine is necessary to provide for the Allocation, sale and delivery of EP and/or RP to the Customer, the proper and efficient implementation of the EP and/or RP programs, billing related to EP and/or RP, and/or the performance of such parties' obligations under any contracts or other arrangements between them relating to such matters.
- E. The provision of Electric Service by the Authority shall be dependent upon the existence of a written agreement or other form of understanding between the Authority and the Customer's local electric utility on terms and conditions that are acceptable to the Authority.
- F. The Customer understands and acknowledges that the Authority may from time to time require the Customer to complete forms, provide documentation, execute consents and provide other information (collectively, "Information") which the Authority determines is necessary for the provision of Electric Service, the delivery of EP and/or RP, billing

related to the EP and/or RP program, the effective and proper administration of the EP and/or RP program, and/or the performance of contracts or other arrangements between the Authority and the Customer's local electric utility. The Customer's failure to provide such Information shall be grounds for the Authority in its sole discretion to withhold or suspend Electric Service to the Customer.

VII. Billing and Billing Methodology

- A. The billing methodology for the Allocation shall be determined on a "load factor sharing" basis in a manner consistent with the Utility Tariff and any agreement between the Authority and the Customer's local electric utility. An alternative basis for billing may be used provided the Parties agree in writing and the local electric utility provides its consent if such consent is deemed necessary.
- B. The Authority will render bills by the 10th business day of the month for charges due for the previous month. Such bills shall include charges for Electric Service, NYISO Charges associated with the Allocation (subject to adjustment consistent with any later NYISO re-billings to the Authority), and other applicable charges.
- C. The Authority may render bills to the Customer electronically.
- D. The Authority and the Customer may agree in writing to an alternative method for the rendering of bills and for the payment of bills, including but not limited to the use of an Authority-established customer self-service web portal.
- E. The Authority will charge and collect from the Customer all Taxes (including local, state and federal taxes) the Authority determines are applicable, unless the Customer furnishes the Authority with proof satisfactory to the Authority that (i) the Customer is exempt from the payment of any such Taxes, and/or (ii) the Authority is not obligated to collect such Taxes from the Customer. If the Authority is not collecting Taxes from the Customer based on the circumstances described in (i) or (ii) above, the Customer shall immediately inform the Authority of any change in circumstances relating to its tax status that would require the Authority to charge and collect such Taxes from the Customer.
- F. Unless otherwise agreed to by the Authority and the Customer in writing, if the Customer fails to pay any bill when due, an interest charge of two percent (2%) of the amount unpaid shall be added thereto as liquidated damages, and thereafter, as further liquidated damages, an additional interest charge of one and one-half percent (1 1/2%) of the sum unpaid shall be added on the first day of each succeeding billing period until the amount due, including interest, is paid in full.
- G. Unless otherwise agreed to by the Authority and the Customer in writing, in the event the Customer disputes any item of any bill rendered by Authority, the Customer shall pay such bill in full within the time provided for by this Agreement, and adjustments, if appropriate, will be made thereafter.
- H. If at any time after commencement of Electric Service the Customer fails to make complete and timely payment of any two (2) bills for Electric Service, the Authority shall

have the right to require the Customer to deposit with the Authority a sum of money in an amount equal to all charges that would be due under this Agreement for Electric Service for two (2) consecutive calendar months as estimated by the Authority. Such deposit shall be deemed security for the payment of unpaid bills and/or other claims of the Authority against the Customer upon termination of Electric Service. If the Customer fails or refuses to provide the deposit within thirty (30) days of a request for such deposit, the Authority may, in its sole discretion, suspend Electric Service to the Customer or terminate this Agreement.

- I. All other provisions with respect to billing are set forth in Service Tariff No. WNY-1 and the Rules.
- J. The rights and remedies provided to the Authority in this Article are in addition to any and all other rights and remedies available to Authority at law or in equity.

VIII. Hydropower Curtailments and Substitute Energy

- A. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of the Authority's firm power customers served by the Authority from the Hydro Projects, curtailments (*i.e.* reductions) in the amount of Firm Power and Firm Energy associated with the Allocation to which the Customer is entitled shall be applied on a *pro rata* basis to all firm power and energy customers served from the Hydro Projects, consistent with Service Tariff No. WNY-1 as applicable.
- B. The Authority shall provide reasonable notice to Customer of any curtailments referenced in Section VIII.A of this Agreement that could impact Customer's Electric Service under this Agreement. Upon written request by the Customer, the Authority will provide Substitute Energy to the Customer to replace the Firm Power and Firm Energy that would otherwise have been supplied pursuant to this Agreement.
- C. For each kilowatt-hour of Substitute Energy supplied by the Authority, the Customer will pay the Authority directly during the billing month: (1) the difference between the market cost of the Substitute Energy and the charge for firm energy as provided for in this Agreement; and (2) any NYISO charges and taxes the Authority incurs in connection with the provision of such Substitute Energy. Billing and payment for Substitute Energy shall be governed by the Billing and Payments provision of the Authority's Rules (Section 454.6) and shall apply directly to the Substitute Energy service supplied to the Customer.
- D. The Parties may enter into a separate agreement to facilitate the provision of Substitute Energy, provided, however, that the provisions of this Agreement shall remain in effect notwithstanding any such separate agreement. The provision of Substitute Energy may be terminated by the Authority or the Customer on fifteen (15) days' prior written notice.

IX. Effectiveness, Term and Termination

- A. This Agreement shall become effective and legally binding on the Parties upon execution of this Agreement by the Authority and the Customer.
- B. Once commenced, Electric Service under the Agreement shall continue until the earliest of: (1) termination by the Customer with respect to its Allocation upon ninety (90) days prior written notice to the Authority; (2) termination by the Authority pursuant to this Agreement, Service Tariff No. WNY-1, or the Rules; or (3) expiration of the Allocation by its own term as specified in Schedule A.
- C. The Customer may exercise a partial termination of the Allocation upon at least thirty (30) days' notice prior written notice to the Authority. The termination shall be effective commencing with the first billing period as defined in Service Tariff No. WNY-1.
- D. The Authority may cancel service under this Agreement or modify the quantities of Firm Power and Firm Energy associated with the Allocation: (1) if such cancellation or modification is required to comply with any final ruling, order or decision of any regulatory or judicial body of competent jurisdiction (including any licensing or re-licensing order or orders of the FERC or its successor agency); or (2) as otherwise provided in this Agreement, Service Tariff No. WNY-1, or the Rules.

X. Additional Allocations

- A. Upon proper application by the Customer, the Authority may in its discretion award additional allocations of EP or RP to the Customer at such rates and on such terms and conditions as the Authority establishes. If the Customer agrees to purchase Electric Service associated with any such additional allocation, the Authority will (i) incorporate any such additional allocations into Schedule A, or in its discretion will produce a supplemental schedule, to reflect any such additional allocations, and (ii) produce a modified Appendix to Schedule B, as the Authority determines to be appropriate. The Authority will furnish the Customer with any such modified Schedule A, supplemental schedule, and/or a modified Appendix to Schedule B, within a reasonable time after commencement of Electric Service for any such additional allocation.
- B. In addition to any requirements imposed by law, the Customer hereby agrees to furnish such documentation and other information as the Authority requests to enable the Authority to evaluate any requests for additional allocations and consider the terms and conditions that should be applicable of any additional allocations.

XI. Notification

- A. Correspondence involving the administration of this Agreement shall be addressed as follows:

To: The Authority

New York Power Authority

123 Main Street
White Plains, New York 10601
Email:
Facsimile: _____
Attention: Manager – Business Power Allocations and Compliance

To: The Customer

1366 Technologies Inc
xxx
xxx:
Facsimile:
Attention:

The foregoing notice/notification information pertaining to either Party may be changed by such Party upon notification to the other Party pursuant to Section XI.B of this Agreement.

- B. Except where otherwise herein specifically provided, any notice, communication or request required or authorized by this Agreement by either Party to the other shall be deemed properly given: (1) if sent by U.S. First Class mail addressed to the Party at the address set forth above; (2) if sent by a nationally recognized overnight delivery service, two (2) calendar days after being deposited for delivery to the appropriate address set forth above; (3) if delivered by hand, with written confirmation of receipt; (4) if sent by facsimile to the appropriate fax number as set forth above, with written confirmation of receipt; or (5) if sent by electronic mail to the appropriate address as set forth above, with written confirmation of receipt. Either Party may change the addressee and/or address for correspondence sent to it by giving written notice in accordance with the foregoing.

XII. Applicable Law

This Agreement shall be governed by and construed in accordance with the laws of the State of New York to the extent that such laws are not inconsistent with the FERC License and the Niagara Redevelopment Act (16 USC §§836, 836a).

XIII. Venue

Each Party consents to the exclusive jurisdiction and venue of any state or federal court within or for Albany County, New York, with subject matter jurisdiction for adjudication of any claim, suit, action or any other proceeding in law or equity arising under, or in any way relating to this Agreement.

XIV. Successors and Assigns; Resale of Hydropower

- A. The Customer may not assign or otherwise transfer an interest in this Agreement.
- B. The Customer may not resell or allow any other person to use any quantity of EP and/or RP it has purchased from the Authority under this Agreement.

- C. Electric Service sold to the Customer pursuant to this Agreement may only be used by the Customer at the Facility specified in Schedule A.

XV. Previous Agreements and Communications

- A. This Agreement shall constitute the sole and complete agreement of the Parties hereto with respect to the subject matter hereof, and supersedes all prior negotiations, representations, warranties, commitments, offers, contracts and writings, written or oral, with respect to the subject matter hereof.
- B. Except as otherwise provided in this Agreement, no modification of this Agreement shall be binding upon the Parties hereto or either of them unless such modification is in writing and is signed by a duly authorized officer of each of them.

XVI. Severability and Voidability

- A. If any term or provision of this Agreement shall be invalidated, declared unlawful or ineffective in whole or in part by an order of the FERC or a court of competent jurisdiction, such order shall not be deemed to invalidate the remaining terms or provisions hereof.
- B. Notwithstanding the preceding paragraph, if any provision of this Agreement is rendered void or unenforceable or otherwise modified by a court or agency of competent jurisdiction, the entire Agreement shall, at the option of either Party and only in such circumstances in which such Party's interests are materially and adversely impacted by any such action, be rendered void and unenforceable by such affected Party.

XVII. Waiver

- A. Any waiver at any time by either the Authority or the Customer of their rights with respect to a default or of any other matter arising out of this Agreement shall not be deemed to be a waiver with respect to any other default or matter.
- B. No waiver by either Party of any rights with respect to any matter arising in connection with this Agreement shall be effective unless made in writing and signed by the Party making the waiver.

XVIII. Execution

To facilitate execution, this Agreement may be executed in as many counterparts as may be required, and it shall not be necessary that the signatures of, or on behalf of, each Party, or that the signatures of all persons required to bind any Party, appear on each counterpart; but it shall be sufficient that the signature of, or on behalf of, each Party, or that the signatures of the persons required to bind any Party, appear on one or more of the counterparts. All counterparts shall collectively constitute a single agreement. It shall not be necessary in making proof of this Agreement to produce or account for more than a number of counterparts containing the respective signatures of, or on behalf of, all of

the Parties hereto. The delivery of an executed counterpart of this Agreement by email as a PDF file shall be legal and binding and shall have the same full force and effect as if an original executed counterpart of this Agreement had been delivered.

[SIGNATURES FOLLOW ON NEXT PAGE]

AGREED:

1366 TECHNOLOGIES INC.

By: _____

Title: _____

Date: _____

AGREED:

POWER AUTHORITY OF THE STATE OF NEW YORK

By: _____
John R. Koelmel, Chairman

Date: _____

**SCHEDULE A TO AGREEMENT FOR THE SALE OF EXPANSION POWER AND/OR REPLACEMENT POWER TO
CUSTOMER**

EXPANSION POWER AND/OR REPLACEMENT POWER ALLOCATIONS

Customer: 1366 Technologies Inc.		Allocation Amount (kW)	Facility	Trustee Approval Date	Expiration Date
Type of Allocation					
Replacement Power		8,500	[STREET ADDRESS], Science Technology Advanced Manufacturing Park, Alabama, NY 14013	December 17 , 2015	Seven (7) years from commencement of Electric Service of any portion of this Allocation.

**SCHEDULE B TO AGREEMENT FOR THE SALE OF EXPANSION POWER
AND/OR REPLACEMENT POWER TO CUSTOMER**

EXPANSION POWER AND/OR REPLACEMENT POWER COMMITMENTS

I. Employment Commitments

A. Employment Levels

The provision of EP and/or RP to the Customer hereunder is in consideration of, among other things, the Customer's creation and/or maintenance of the employment level set forth in the Appendix of this Schedule (the "Base Employment Level"). Such Base Employment Level shall be the total number of full-time positions held by: (1) individuals who are employed by the Customer at Customer's Facility identified in the Appendix to this Schedule, and (2) individuals who are contractors or who are employed by contractors of the Customer and assigned to the Facility identified in such Appendix (collectively, "Base Level Employees"). The number of Base Level Employees shall not include individuals employed on a part-time basis (less than 35 hours per week); provided, however, that two individuals each working 20 hours per week or more at such Facility shall be counted as one Base Level Employee.

The Base Employment Level shall not be created or maintained by transfers of employees from previously held positions with the Customer or its affiliates within the State of New York, except that the Base Employment Level may be filled by employees of the Customer laid off from other Customer facilities for *bona fide* economic or management reasons.

The Authority may consider a request to change the Base Employment Level based on a claim of increased productivity, increased efficiency or adoption of new technologies or for other appropriate reasons as determined by the Authority. Any such change shall be within Authority's sole discretion.

B. Employment Records and Reports

A record shall be kept monthly by the Customer, and provided on a calendar year basis to the Authority, of the total number of Base Level Employees who are employed at or assigned to the Customer's Facility identified in the Appendix to this Schedule, as reported to the United States Department of Labor (or as reported in such other record as agreed upon by the Authority and the Customer). Such report shall separately identify the individuals who are employed by the Customer, and the individuals who are contractors or who are employed by contractors of the Customer, and shall be certified to be correct by an officer of the Customer, plant manager or such other person authorized by the Customer to prepare and file such report and shall be provided to the Authority on or before the last day of February following the end of the most recent calendar year. The Authority shall have the right to examine and audit on reasonable advance written notice

all non-confidential written and electronic records and data concerning employment levels including, but not limited to, personnel records and summaries held by the Customer and its affiliates relating to employment in New York State.

II. Reductions of Contract Demand

A. Employment Levels

If the year-end monthly average number of employees is less than 90% of the Base Employment Level set forth in this Schedule B, for the subject calendar year, the Authority may reduce the Contract Demand subject to Article II.D of this Schedule. The maximum amount of reduction will be determined by multiplying the Contract Demand by the quantity one minus the quotient of the average monthly employment during the subject calendar year divided by the Base Employment Level. Any such reduction shall be rounded to the nearest fifty (50) kW. In the event of a reduction of the Contract Demand to zero, the Agreement shall automatically terminate.

B. Power Utilization Levels

A record shall be kept monthly by the Customer, and provided on a calendar year basis to the Authority on or before the last day of February following the end of the most recent calendar year, of the maximum demand utilized each month in the Facility receiving the power covered by the Agreement. If the average of the Customer's six (6) highest Billing Demands (as such term is described in Service Tariff No. WNY-1) for Expansion Power and/or Replacement Power is less than 90% of the Customer's Contract Demand in such calendar year the Authority may reduce the Contract Demand subject to Article II.D of this Schedule. The maximum amount by which the Authority may reduce the Contract Demand shall be determined by multiplying the Contract Demand by the quantity one minus the quotient of the average of the six (6) highest Billing Demands for in such calendar year divided by the Contract Demand. Any such reduction shall be rounded to the nearest fifty (50) kW. In the event of a reduction of the Contract Demand to zero, this Agreement shall automatically terminate.

C. Capital Investment

The Customer agrees to undertake the capital investment set forth in the Appendix to this Schedule.

Notwithstanding any other provision of the Agreement, the Customer shall provide the Authority with such access to the Facility, and such documentation, as the Authority deems necessary to determine the Customer's compliance with the Customer's obligations provided for in this Schedule B.

D. Notice of Intent to Reduce Contract Demand

In the event that the Authority determines that the Contract Demand will be wholly or partially reduced pursuant to this Schedule, the Authority shall provide the Customer with at least thirty (30) days prior written notice of such reduction, specifying the amount of the reduction of Contract Demand and the reason for the reduction, provided, however, that before making the reduction, the Authority may consider the Customer's scheduled or unscheduled maintenance or Facility upgrading periods when such events temporarily reduce plant employment levels or electrical demand as well as business cycle.

III. Energy Efficiency Audits; Information Requests

Unless otherwise agreed to by the Authority in writing, the Customer shall undergo an energy efficiency audit of its Facility and equipment at which the Allocation is consumed at the Customer's expense at least once during the term of this Agreement but in any event not less than once every five years. The Customer will provide the Authority with a copy of the audit or, at the Authority's option, a report describing the results of the audit, and provide documentation requested by the Authority to verify the implementation of any efficiency measures implemented at the Facility.

The Customer agrees to cooperate to make its Facility available at reasonable times and intervals for energy audits and related assessments that the Authority desires to perform, if any, at the Authority's own expense.

The Customer shall provide information requested by the Authority or its designee in surveys, questionnaires and other information requests relating to energy efficiency and energy-related projects, programs and services.

The Customer may, after consultation with the Authority, exclude from written copies of audits, reports and other information provided to the Authority under this Article trade secrets and other information which if disclosed would harm the competitive position of the Customer.

APPENDIX TO SCHEDULE B

BASE EMPLOYMENT LEVEL

Within three (3) years of commencement of Electric Service, the Customer shall employ at least one hundred fifty (150) full-time employees ("Base Employment Level") at the Customer's Facility. The Base Employment Level shall be maintained thereafter for the term of the Allocation in accordance with Article I of Schedule B.

CAPITAL INVESTMENT

The Customer shall make a minimum capital investment of \$103,500,000 to construct and furnish the Facility (the "Capital Investment"). The Capital Investment is expected to consist of the following specific expenditures:

Land Purchase	\$ 3,500,000
Construction of Manufacturing Facility	\$45,000,000
Solar Wafer Manufacturing Equipment	\$25,000,000
Other Processing Equipment	\$25,000,000
Other Equipment & Infrastructure	\$ 5,000,000

Total Capital Investment: **\$103,500,000**

The Capital Investment shall be made, and the Facility shall be completed and fully operational, no later than December 17, 2018 (*i.e.*, within three (3) years of the date of the Authority's award of the Allocation). Upon request of the Customer, such date may be extended in the sole discretion of the Authority.

**SCHEDULE C TO AGREEMENT FOR THE SALE OF EXPANSION POWER
AND/OR REPLACEMENT POWER TO CUSTOMER**

TAKEDOWN SCHEDULE

N/A



**NY Power
Authority**

POWER AUTHORITY OF THE STATE OF NEW YORK
30 SOUTH PEARL STREET
ALBANY, NY 12207

**Schedule of Rates for Sale of Firm Power to Expansion and
Replacement Customers located
In Western New York**

Service Tariff No. WNY-1

Date of Issue: June 1, 2015

Date Effective: July 1, 2015

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

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Schedule of Rates for Firm Power Service

I. Applicability

To sales of Expansion Power and/or Replacement Power (as defined below) directly to a qualified business Customer (as defined below) for firm power service.

II. Abbreviations and Terms

- kW kilowatt(s)
- kW-mo. kilowatt-month
- kWh kilowatt-hour(s)
- MWh megawatt-hour(s)
- NYISO New York Independent System Operator, Inc. or any successor organization
- PAL New York Public Authorities Law
- OATT Open Access Transmission Tariff

Agreement: An executed "Agreement for the Sale of Expansion and/or Replacement Power and Energy" between the Authority and the Customer (each as defined below).

Annual Adjustment Factor or **AAF:** This term shall have the meaning set forth in Section V herein.

Authority: The Power Authority of the State of New York, a corporate municipal instrumentality and a political subdivision of the State of New York created pursuant to Chapter 772 of the New York Laws of 1931 and existing and operating under Title 1 of Article 5 of the PAL, also known as the "New York Power Authority."

Customer: A business customer who has received an allocation for Expansion Power and/or Replacement Power from the Authority and who purchases Expansion Power and/or Replacement Power directly from the Authority.

Electric Service: The power and energy provided to the Customer in accordance with the Agreement, this Service Tariff and the Rules.

Expansion Power and/or **Replacement Power:** Firm Power and Firm Energy made available under this Service Tariff by the Authority from the Project for sale to the Customer for business purposes pursuant to PAL § 1005(5) and (13).

Firm Power: Capacity (kW) that is intended to be always available from the Project subject to the curtailment provisions set forth in the Agreement between the Authority and the Customer and this Service Tariff. Firm Power shall not include peaking power.

Firm Energy: Energy (kWh) associated with Firm Power.

Load Serving Entity or **LSE**: This term shall have the meaning set forth in the Agreement.

Load Split Methodology or **LSM**: A load split methodology applicable to a Customer's allocation. It is usually provided for in an agreement between the Authority and the Customer's local electric utility, an agreement between the Authority and the Customer, or an agreement between the Authority, the Customer and the Customer's local electric utility, or such local utility's tariff, regarding the delivery of WNY Firm Power. The load split methodology is often designated as "Load Factor Sharing" or "LFS", "First through the Meter" or "FTM", "First through the Meter Modified" or "FTM Modified", or "Replacement Power 2" or "RP 2".

Project: The Authority's Niagara Power Project, FERC Project No. 2216.

Rate Year or **RY**: The period from July 1 through June 30 starting July 1, 2013, and for any year thereafter.

Rules: The Authority's rules and regulations set forth in 21 NYCRR § 450 *et seq.*, as they may be amended from time to time.

Service Tariff: This Service Tariff No. WNY-1.

Target Rate: This term shall have the meaning set forth in Section III herein.

All other capitalized terms and abbreviations used but not defined herein shall have the same meaning as set forth in the Agreement.

III. Monthly Rates and Charges

A. Expansion Power (EP) and Replacement Power (RP) Base Rates

Beginning on July 1, 2013, there will be a 3-year phase-in to new base rates. The phase-in will be determined by the rate differential between the 2012 EP/RP rates and a "Target Rate." The Target Rate, specified in Section III.A.1. below, is based on the rates determined by the Authority to be applicable in RY 2013 for sales of "preservation power" as that term is defined in PAL § 1005(13). The following Sections III.A.1-4 describe the calculation and implementation of the phase-in.

1. The initial rate point will be established by the EP/RP rates (\$/kW and \$/MWh), determined by mid-April 2012 and made effective on May 1, 2012 in accordance with the Authority's then-applicable EP and RP tariffs. The Target Rate (*i.e.* demand and energy rates) for RY 2013 shall be \$7.99/kW and \$13.66/MWh.
2. The difference between the two rate points is calculated and divided by 3 to correspond with the number of Rate Years over which the phase-in will occur. The resulting quotients (in \$/kW and \$/MWh) are referred to as the "annual increment."
3. The annual increment will be applied to the base rates for the 3-year period of the 2013, 2014 and 2015 Rate Years, which shall be as follows:

RY 2013: July 1, 2013 to June 30, 2014

RY 2014: July 1, 2014 to June 30, 2015

RY 2015: July 1, 2015 to June 30, 2016

The annual rate adjustments normally made effective on May 1, 2013 under then-applicable EP and RP tariffs will be suspended, such that demand and energy rates established in 2012 shall be extended through June 30, 2013.

4. Effective commencing in RY 2013, the Annual Adjustment Factor ("AAF") described in Section V herein, shall be applied as follows:
 - A. For the RY 2013 only, the AAF will be suspended, and the RY 2013 rate increase will be subject only to the annual increment.
 - B. For the RYs 2014 and 2015, the AAF will be applied to the demand and energy rates after the addition of the annual increment to the rates of the previous RY rates. Such AAF will be subject to the terms and limits stated in Section V herein.
 - C. Beginning in RY 2016, the AAF will be applied to the previous RY rates, and the annual increment is no longer applicable.

B. EP and RP Rates no Lower than Rural/Domestic Rate

At all times the applicable base rates for demand and energy determined in accordance with Sections III.A and V of this Service Tariff shall be no lower than the rates charged by the

Authority for the sale of hydroelectricity for the benefit of rural and domestic customers receiving service in accordance with the Niagara Redevelopment Act, 16 U.S.C. § 836(b)(1) and PAL § 1005(5) (the "Rural/Domestic Rate"). This provision shall be implemented as follows: if the base rates, as determined in accordance with Sections III.A and V of this Service Tariff, are lower than the Rural/Domestic Rate on an average \$/MWh basis, each set of rates measured at 80% load factor which is generally regarded as representative for EP and RP Customers, then the base rates determined under Sections III.A and V of this Service Tariff will be revised to make them equal to the Rural/Domestic Rate on an average \$/MWh basis. However, the base rates as so revised will have no effect until such time as these base rates are lower than the Rural/Domestic Rate.

C. Monthly Base Rates Exclude Delivery Service Charges

The monthly base rates set forth in this Section III exclude any applicable costs for delivery services provided by the local electric utility.

D. Minimum Monthly Charge

The minimum monthly charge shall equal the product of the demand charge and the contract demand (as defined herein). Such minimum monthly charge shall be in addition to any NYISO Charges or Taxes (each as defined herein) incurred by the Authority with respect to the Customer's Allocation.

E. Estimated Billing

If the Authority, in its sole discretion, determines that it lacks reliable data on the Customer's actual demand and/or energy usage for a Billing Period during which the Customer receives Electric Service from the Authority, the Authority shall have the right to render a bill to the Customer for such Billing Period based on estimated demand and estimated usage ("Estimated Bill").

For the purpose of calculating a Billing Demand charge for an Estimated Bill, the demand charge will be calculated based on the Customer's Load Split Methodology as following:

- For Customers whose allocation is subject to a Load Factor Sharing/LFS LSM, the estimated demand (kW) will be calculated based on an average of the Customer's Billing Demand (kW) values for the previous three (3) consecutive Billing Periods. If such historical data is not available, then the estimated demand (kW) value for the Estimated Bill will equal the Customer's Takedown (kW) amount.
- For Customers whose allocation is subject to a First through the Meter/ FTM, FTM Modified, or RP 2 LSM, the estimated demand (kW) value will equal the Customer's Takedown (kW) amount.

For the purpose of calculating a Billing Energy charge for an Estimated Bill, the energy charge will be calculated based on the Customer's Load Split Methodology as following:

- For Customers whose allocation is subject to a Load Factor Sharing/LFS LSM, the estimated energy (kWh) will be based on the average of the Customer's Billing Energy (kWh) values for the previous three (3) consecutive Billing Periods. If such historical data is not available, then the estimated energy value (kWh) will be equal to the Takedown (kW) amount at 70 percent load factor for that Billing Period.

- For Customers whose allocation is subject to a First through the Meter/FTM, FTM Modified, or RP 2 LSM, the estimated energy (kWh) will be equal to the Takedown (kW) amount at 100 percent load factor for that Billing Period.

If data indicating the Customer's actual demand and usage for any Billing Period in which an Estimated Bill was rendered is subsequently provided to the Authority, the Authority will make necessary adjustments to the corresponding Estimated Bill and, as appropriate, render a revised bill (or provide a credit) to the Customer.

The Minimum Monthly Charge provisions of Section III B.D. shall apply to Estimated Bills.

The Authority's discretion to render Estimated Bills is not intended to limit the Authority's rights under the Agreement.

F.Adjustments to Charges

In addition to any other adjustments provided for in this Service Tariff, in any Billing Period, the Authority may make appropriate adjustments to billings and charges to address such matters as billing and payment errors, the receipt of actual, additional, or corrected data concerning Customer energy or demand usage.

G.Billing Period

Any period of approximately thirty (30) days, generally ending with the last day of each calendar month but subject to the billing cycle requirements of the local electric utility in whose service territory the Customer's facilities are located.

H.Billing Demand

The billing demand shall be determined by applying the applicable billing methodology to total meter readings during the billing period. See Section IV.E, below.

I.Billing Energy

The billing energy shall be determined by applying the applicable billing methodology to total meter readings during the billing period. See Section IV.E, below.

J.Contract Demand

The contract demand of each Customer will be the amount of Expansion Power and/or Replacement Power, not to exceed their Allocation, provided to such Customer by the Authority in accordance with the Agreement.

IV. General Provisions

A. Character of Service

Alternating current; sixty cycles, three-phase.

B. Availability of Energy

1. Subject to Section IV.B.2, the Authority shall provide to the Customer in any billing period Firm Energy associated with Firm Power. The offer of Firm Energy for delivery shall fulfill the Authority's obligations for purposes of this provision whether or not the Firm Energy is taken by the Customer.
2. If, as a result of reduced water flows caused by hydrologic conditions, there is insufficient energy from the Hydro Projects to supply the full power and energy requirements of NYPA's Firm Power customers served from the Hydro Projects, hydropower curtailments (*i.e.* reductions) in the amount of Firm Power and Energy to which the Customer is entitled shall be applied on a *pro rata* basis to all Firm Power and Energy customers served from the Hydro Projects. Reductions as a percentage of the otherwise required Firm Power and Energy sales will be the same for all Firm Power and Energy customers served from the Hydro Projects. The Authority shall be under no obligation to deliver and will not deliver any such curtailed energy to the Customer in later billing periods. The Customer will receive appropriate bill credits as provided under the Rules.

C. Delivery

For the purpose of this Service Tariff, Firm Power and Firm Energy shall be deemed to be offered when the Authority is able to supply Firm Power and Firm Energy to the Authority's designated NYISO load bus. If, despite such offer, there is a failure of delivery caused by the Customer, NYISO or local electric utility, such failure shall not be subject to a billing adjustment pursuant to Section 454.6(d) of the Rules.

D. Adjustment of Rates

To the extent not inconsistent with the Agreement, the rates contained in this Service Tariff may be revised from time to time on not less than thirty (30) days written notice to the Customer.

E. Billing Methodology and Billing

Unless otherwise specified in the Agreement, the following provisions shall apply:

1. The billing methodology to be used to render bills to the Customer related to its Allocation shall be determined in accordance with the Agreement and delivery agreement between the Authority and, as applicable, the Customer or local electric utility or both.

2. **Billing Demand** –The Billing Demand charged by the Authority to each Customer will be the highest 15 or 30-minute integrated demand, as determined by the local utility, during each Billing Period recorded on the Customer's meter multiplied by a percentage based on the Load Split Methodology provided for in any contract between the Authority and the Customer's local electric utility, any contract between the Authority and the Customer, or any contract between the Authority, the Customer and the Customer's local electric utility for delivery of WNY Power. Billing Demand may not exceed the amount of the Contract Demand.

3. **Billing Energy** –The kilowatt-hours charged by the Authority to each Customer will be the total number of kilowatt-hours recorded on the Customer's meter for the Billing Period multiplied by a percentage based on the methodology provided for in any contract between the Authority and the Customer's local electric utility for delivery of WNY Power.

F. Payment by Customer to Authority

1. Demand and Energy Charges, Taxes

The Customer shall pay the Authority for Firm Power and Energy during any billing period the higher of either (i) the sum of (a), (b) and (c) below or (ii) the monthly minimum charge as defined herein:

- a. The demand charge per kilowatt for Firm Power specified in this Service Tariff or any modification thereof applied to the Customer's billing demand (as defined in Section IV.E, above) for the billing period; and
- b. The energy charge per MWh for Firm Energy specified in this Service Tariff or any modification thereof applied to the Customer's billing energy (as defined in Section IV.E, above) for the billing period; and
- c. A charge representing reimbursement to the Authority for all applicable Taxes incurred by the Authority as a result of providing Expansion Power and/or Replacement Power allocated to the Customer.

2. Transmission Charge

The Customer shall compensate the Authority for all transmission costs incurred by the Authority with respect to the Allocation, including such costs that are charged pursuant to the OATT.

3. NYISO Transmission and Related Charges ("NYISO Charges")

The Customer shall compensate the Authority for the following NYISO Charges assessed on the Authority for services provided by the NYISO pursuant to its OATT or other tariffs (as the provisions of those tariffs may be amended and in effect from time to time) associated with providing Electric Service to the Customer:

- A. Ancillary Services 1 through 6 and any new ancillary services as may be defined and included in the OATT from time to time;

B. Marginal losses;

- C. The New York Power Authority Transmission Adjustment Charge ("NTAC");
- D. Congestion costs, less any associated grandfathered Transmission Congestion Contracts ("TCCs") as provided in Attachment K of the OATT;
- E. Any and all other charges, assessments, or other amounts associated with deliveries to Customers or otherwise associated with the Authority's responsibilities as a Load Serving Entity for the Customers that are assessed on the Authority by the NYISO under the provisions of its OATT or under other applicable tariffs; and
- F. Any charges assessed on the Authority with respect to the provision of Electric Service to Customers for facilities needed to maintain reliability and incurred in connection with the NYISO's Comprehensive System Planning Process (or similar reliability-related obligations incurred by the Authority with respect to Electric Service to the Customer), applicable tariffs, or required to be paid by the Authority in accordance with law, regardless of whether such charges are assessed by the NYISO or another third party.

The NYISO Charges, if any, incurred by the Authority on behalf of the Customer, are in addition to the Authority production charges that are charged to the Customer in accordance with other provisions of this Service Tariff.

The method of billing NYISO charges to the Customer will be based on Authority's discretion.

4. Taxes Defined

Taxes shall be any adjustment as the Authority deems necessary to recover from the Customer any taxes, assessments or any other charges mandated by federal, state or local agencies or authorities that are levied on the Authority or that the Authority is required to collect from the Customer if and to the extent such taxes, assessments or charges are not recovered by the Authority pursuant to another provision of this Service Tariff.

5. Substitute Energy

The Customer shall pay for Substitute Energy, if applicable, as specified in the Agreement.

6. Payment Information

Bills computed under this Service Tariff are due and payable by electronic wire transfer in accordance with the Rules. Such wire transfer shall be made to J P Morgan Chase NY, NY / ABA021000021 / NYPA A/C # 008-030383, unless otherwise indicated in writing by the Authority. In the event that there is a dispute on any items of a bill rendered by the Authority, the Customer shall pay such bill in full. If necessary, any adjustments will be made thereafter.

G. Rendition and Payment of Bills

1. The Authority will render bills to the Customer for Electric Service on or before the tenth (10th) business day of the month for charges due for the previous Billing Period. Bills will reflect the amounts due and owing, and are subject to adjustment as provided for in the Agreement, Service Tariff No. WNY-1 and the Rules. Unless otherwise agreed to by the Authority and the Customer in writing, the Authority shall render bills to the Customer electronically.
2. Payment of bills by the Customer shall be due and payable by the Customer within twenty (20) days of the date the Authority renders the bill.
3. Except as otherwise agreed by the Authority in writing, if the Customer fails to pay any bill when due an interest charge of two percent of the amount unpaid will be added thereto as liquidated damages, and thereafter, as further liquidated damages, an additional interest charge of one and one-half percent of the sum unpaid shall be added on the first day of each succeeding Billing Period until the amount due, including interest, is paid in full.
4. If at any time after commencement of Electric Service the Customer fails to make complete payment of any two (2) bills for Electric Service when such bills become due pursuant to Agreement, the Authority shall have the right to require that the Customer deposit with the Authority a sum of money in an amount equal to all charges that would be due under this Agreement for Electric Service for two (2) consecutive calendar months as estimated by the Authority. Such deposit will be deemed security for the payment of unpaid bills and/or other claims of the Authority against the Customer upon termination of Electric Service. The failure or refusal of the Customer to provide the deposit within thirty (30) days of a request for such deposit will be grounds for the Authority in its sole discretion to suspend Electric Service to the Customer or terminate this Agreement.

H. Adjustment of Charges

1. Distribution Losses

The Authority will make appropriate adjustments to compensate for distribution losses of the local electric utility.

I. Conflicts

The Authority's Rules shall apply to the Electric Service provided under this Service Tariff. In the event of any inconsistencies, conflicts or differences between the provisions of this Service Tariff and the Rules, the provisions of this Service Tariff shall govern.

J. Customer Resales Prohibited

The Customer may not resell any quantity of Expansion Power and/or Replacement Power.

V. Annual Adjustment Factor

A. Adjustment of Rates

1. The AAF will be based upon a weighted average of three indices described below. For each new Rate Year, the index value for the latest available calendar year ("Index Value for the Measuring Year") will be compared to the index value for the calendar year immediately preceding the latest available calendar year (the Index Value for the Measuring Year -1"). The change for each index will then be multiplied by the indicated weights. As described in detail below, these products are then summed, producing the AAF. The AAF will be multiplied by the base rate for the current Rate Year to produce the base rates for the new Rate Year, subject to a maximum adjustment of $\pm 5.0\%$ (" $\pm 5\%$ Collar"). Amounts outside the $\pm 5\%$ Collar shall be referred to as the "Excess."

Index 1, "BLS Industrial Power Price" (35% weight): The average of the monthly Producer Price Index for Industrial Electric Power, commodity code number 0543, not seasonally adjusted, as reported by the U.S. Department of Labor, Bureau of Labor Statistics ("BLS") electronically on its internet site and consistent with its printed publication, "Producer Price Index Detailed Report". For Index 1, the Index Value for the Measuring Year will be the index for the calendar year immediately preceding July 1 of the new Rate Year.

Index 2, "EIA Average Industrial Power Price" (40% weight): The average weighted annual price (as measured in cents/kWh) for electric sales to the industrial sector in the ten states of CT, MA, ME, NH, NJ, NY, OH, PA, RI and VT ("Selected States") as reported by Coal and Electric Data and Renewables Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration ("EIA"); U.S. Department of Energy Form EIA-861 Final Data File. For Index 2, the Index Value for the Measuring Year will be the index for the calendar year two years preceding July 1 of the new Rate Year.

Index 3, "BLS Industrial Commodities Price Less Fuel" (25% weight): The monthly average of the Producer Price Index for Industrial Commodities less fuel, commodity code number 03T15M05, not seasonally adjusted, as reported by the U.S. Department of Labor, BLS electronically on its internet site and consistent with its printed publication, "Producer Price Index Detailed Report". For Index 3, the Index Value for the Measuring Year will be the index for the calendar year immediately preceding July 1 of the new Rate Year.

2. Annual Adjustment Factor Computation Guide

- Step 1: For each of the three Indices, divide the Index Value for Measuring Year by the Index Value for the Measuring Year-1.
- Step 2: Multiply the ratios determined in Step 1 by percentage weights for each Index. Sum the results to determine the weighted average. This is the AAF.
- Step 3: Commencing RY 2014, modifications to the AAF will be subject to $\pm 5\%$ Collar, as described below.
 - a) When the AAF falls outside the $\pm 5\%$ Collar, the Excess will be carried over to the subsequent RY. If the AAF in the subsequent RY is within the $\pm 5\%$ Collar, the current RY Excess will be added to/subtracted from the subsequent Rate Year's AAF, up to the $\pm 5\%$ Collar.

- b) Excesses will continue to accrue without limit and carry over such that they will be added to/subtracted from the AAF in any year where the AAF is within the $\pm 5\%$ Collar.

Step 4: Multiply the current Rate Year base rate by the AAF calculated in Step 2 to determine the new Rate Year base rate.

The foregoing calculation shall be performed by the Authority consistent with the sample presented in Section V.B below.

3. The Authority shall provide the Customer with notice of any adjustment to the current base rate per the above and with all data and calculations necessary to compute such adjustment by June 15th of each year to be effective on July 1 of such year, commencing in 2014. The values of the latest officially published (electronically or otherwise) versions of the indices and data provided by the BLS and EIA as of June 1 shall be used notwithstanding any subsequent revisions to the indices.
4. If during the term of the Agreement any of the three above indices ceases to be available or ceases to be reflective of the relevant factors or of changes which the indices were intended by the Parties to reflect, the Customer and the Authority shall mutually select a substitute Index. The Parties agree to mutually select substitute indices within 90 days, once notified by the other party that the indices are no longer available or no longer reflect the relevant factors or changes with the indices were intended by the Parties to reflect. Should the 90-day period cover a planned July 1 rate change, the current base rates will remain in effect until substitute indices are selected and the adjusted rates based on the substitute indices will be retroactive to the previous July 1. If unable to reach agreement on substitute indices within the 90-day period, the Parties agree to substitute the mathematic average of the PPI—Intermediate Materials, Supplies and Components (BLS Series ID WPUSOP2000) and the PPI-- Finished Goods (BLS Series ID WPUSOP3000) indices for one or more indices that have ceased to be available and shall assume the percentage weighting(s) of the one or more discontinued indices as indicated in Section V.A.1.

B. Sample Computation of the AAF (hypothetical values for July 1, 2014 implementation):

STEP 1

Determine the Index Value for the Measuring Year (MY) and Measuring Year - 1 (MY-1) for Each Index

- Index 1 - Producer Price Index, Industrial Power

	Measuring Year (2013)	Measuring Year - 1 (2012)
January	171.2	167.8
February	172.8	167.6
March	171.6	168.2
April	173.8	168.6
May	175.1	171.6
June	185.7	180.1
July	186.4	182.7
August	184.7	179.2
September	185.5	181.8
October	175.5	170.2
November	172.2	168.8
December	171.8	166.6
Average	177.2	172.8
Ratio of MY/MY-1		1.03

• Index 2 – EIA Industrial Rate

<u>State</u>	<u>Revenues</u> (\$000s)	<u>Sales</u> (MWh)	<u>Avg. Rate</u> (cents/kWh)
<u>Measuring Year (2012)</u>			
CT	590,972	6,814,757	
MA	1,109,723	13,053,806	
ME	328,594	4,896,176	
NH	304,363	2,874,495	
NJ	1,412,665	15,687,873	
NY	2,001,588	26,379,314	
OH	3,695,978	78,496,166	
PA	3,682,192	63,413,968	
RI	152,533	1,652,593	
VT	<u>155,903</u>	<u>2,173,679</u>	
TOTAL	13,434,511	215,442,827	6.24

Measuring Year -1 (2011)

CT	579,153	6,678,462	
MA	1,076,431	12,662,192	
ME	310,521	4,626,886	
NH	298,276	2,817,005	
NJ	1,370,285	15,217,237	
NY	1,891,501	24,928,452	
OH	3,622,058	76,926,243	
PA	3,571,726	61,511,549	
RI	144,144	1,561,700	
VT	<u>152,785</u>	<u>2,130,205</u>	
TOTAL	13,016,880	209,059,931	6.23

Ratio of MY/MY-1 1.00

• Index 3 – Producer Price Index, Industrial Commodities Less Fuel

	Measuring Year (2013)	Measuring Year -1 (2012)
January	190.1	187.2
February	190.9	188.0
March	191.6	188.7
April	192.8	189.9
May	194.7	191.8
June	195.2	192.3
July	195.5	192.3
August	196.0	193.1
September	196.1	193.2
October	196.2	193.8
November	196.6	193.7
December	196.7	194.0

Average 194.4 191.5

Ratio of MY/MY-1 1.02

STEP 2

Determine AAF by Summing the Weighted Indices

<u>Index</u>	<u>Ratio of MY to MY-1</u>	<u>Weight</u>	<u>Weighted Factors</u>
PPI Industrial Power	1.03	0.35	0.361
EIA Industrial Rate	1.00	0.40	0.400
PPI Industrial Commodities less fuel	1.02	0.25	0.255
AAF			1.016

STEP 3

Apply Collar of $\pm 5.0\%$ to Determine the Maximum/Minimum AAF.

$-5.0\% < 1.6\% < 5.0\%$; collar does not apply, assuming no cumulative excess.

STEP 4

Apply AAF to Calculate the New Rate Year Base Rate

	<u>Demand</u> \$/kW-mo.	<u>Energy</u> \$/MWh
Current Rate Year Base Rate	7.56	12.91
New Rate Year Base Rate	7.68	13.12

Date of Issue: September 24, 2013

Date Effective: October 2013 Billing Period

Issued by James F. Pasquale, Senior Vice President
Power Authority of the State of New York
30 South Pearl Street, Albany, NY 12207

Line	Company	City	County	Economic Development Region	IOU	Description	kW Request	kW Recommendation	Jobs Retained	Jobs Created	Total Job Commitment	Capital Investment (\$)	Contract Term (years)
1	Saint Gobain Performance Plastics	Granville	Washington	Capital District	NYSEG	Produces advanced polymer products	654	326	139	0	139	\$5,000,000	⁽¹⁾ 7
	Capital District Region Sub-totals:						654	326	139	0	139	\$5,000,000	
2	Arma Container Corp.	Deer Park	Suffolk	Long Island	LIPA	Manufacturer of packaging supplies	501	250	83	0	83	\$5,000,000	7
3	LIF Industries, Inc.	Port Washington	Nassau	Long Island	LIPA	Producer and distributor of fireproof doors	485	240	300	0	300	\$2,500,000	⁽¹⁾ 7
4	Thomson Reuters	Hauppauge	Suffolk	Long Island	LIPA	Financial and news data center	2,731	1,366	125	0	125	\$5,000,000	7
	Long Island Region Sub-totals:						3,717	1,856	508	0	508	\$12,500,000	
5	DeMet's Candy Company	Big Flats	Chemung	Southern Tier	NYSEG	Manufacturer of candy and snack products	741	370	121	0	121	\$1,500,000	⁽¹⁾ 7
	Southern Tier Region Sub-totals:						741	370	121	0	121	\$1,500,000	7
6	Buffalo Armory LLC	Buffalo	Erie	Western New York	NGRID	Produces high-strength steel and armor	976	316	7	0	7	\$1,000,000	⁽¹⁾ 7
	Western New York Region Sub-totals:						976	316	7	0	7	\$1,000,000	7

Totals

2,868	775	0	775	\$20,000,000
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⁽¹⁾ These companies are also recommended for expansion-related allocations of RNY for separate and distinct job creation and capital investment commitments associated with proposed business expansions.

Line	Company	City	County	Economic Development Region	IOU	Description	kW Request	kW Recommendation (1)	Base Employment (3)	Job Creation Commitment	Project Capital Investment (\$)	Contract Term (years)
1	Saint Gobain Performance Plastics	Granville	Washington	Capital District	NYSEG	Produces advanced polymer products	200	140	139	30	\$10,267,411	(2) 7
	Capital District Region Sub-totals:						200	140	139	30	\$10,267,411	
2	CEA Fresh Farms	Clay	Onondaga	Central New York	NGRID	Hydroponic indoor farm	7,500	5,250	0	700	\$304,000,000	7
	Central New York Region Sub-totals:						7,500	5,250	0	700	\$304,000,000	
3	Certified Laboratories, Inc.	Melville	Suffolk	Long Island	LIPA	Food testing laboratory	956	666	115	32	\$12,000,000	(4) 7
4	LIF Industries, Inc.	Port Washington	Nassau	Long Island	LIPA	Producer and distributor of fireproof doors	75	50	300	10	\$2,500,000	(2) 7
	Long Island Region Sub-totals:						1,031	716	415	42	\$14,500,000	
5	DeMet's Candy Company	Big Flats	Chemung	Southern Tier	NYSEG	Manufacturer of candy and snack products	300	210	121	70	\$39,500,000	(2) 7
6	Midwestern Pet Foods, Inc.	Waverly	Tioga	Southern Tier	NYSEG	Pet food manufacturer	1,500	1,050	0	50	\$9,100,000	7
7	Modern Marketing Concepts, Inc.	Binghamton	Broome	Southern Tier	NYSEG	Sales and marketing optimization services	500	350	337	107	\$4,387,500	(4) 7
	Southern Tier Region Sub-totals:						2,300	1,610	458	227	\$52,987,500	
8	Buffalo Armory LLC	Buffalo	Erie	Western New York	NGRID	Produces high-strength steel and armor	2,000	350	7	7	\$15,000,000	(2) 7
9	Empire State Mushrooms LLC	Lackawanna	Erie	Western New York	NGRID	Mushroom production facility	1,220	850	0	60	\$28,600,000	7
	Western New York Region Sub-totals:						3,220	1,200	7	67	\$43,600,000	7

Totals

8,916	1,019	1,066	\$425,354,911
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- (1) All expansion-based RNY Power allocations are recommended to be "up to" the amount indicated pending the applicant's compliance with contractual commitments, including commitments relating to job creation, capital investment spending and power utilization.
(2) These companies are also being recommended for retention-based RNY Power allocations associated with separate and distinct contractual commitments relating to such matters as job retention, capital investment spending and power utilization associated with an existing business.
(3) The number of new jobs committed will be above a base employment level specified in the power sale contract with the applicant.
(4) The base employment refers to this applicant's current employment level, which is not associated with an existing power allocation.

Line	Company	City	County	Economic Development Region	IOU	Description	kW Request	kW Recommendation	Jobs Retained	Jobs Created	Capital Investment (\$)		Contract Term (years)
1	Glens Falls Hospital	Glens Falls	Warren	Capital District	NGRID	Hospital	2,727	580	2,344	0	\$6,000,000	(1)	7
	Capital District Region Sub-totals:						2,727	580	2,344	0	\$6,000,000		

Totals

580	2,344	0	\$6,000,000
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(1) These applicants are being recommended for retention-related allocations.

**New York Power Authority
ReCharge New York Power Program
Absence of Eligible Applicant**

**Exhibit "7c-D"
December 17, 2015**

Line	Company	City	County	Economic Development Region	IOU	Description	Reason
1	TreePaad Fun Center, LLC	Malta	Saratoga	Capital District	NYSEG	Children's indoor amusement park	Retail business
2	Anyela's Vineyards, LLC	Skaneateles	Onondaga	Central New York	NGRID	Wine-related business	Retail business
3	Madison County Distillery, LLC	Cazenovia	Madison	Central New York	NGRID	Liquor-related business	Retail business
4	Village of Cape Vincent	Cape Vincent	Jefferson	North Country	NGRID	Municipal wastewater treatment plant	Public entity (municipality)

**New York Power Authority
ReCharge New York Power Program
Applications Not Recommended**

**Exhibit "7c-E"
December 17, 2015**

Line	Company	City	County	Economic Development Region	IOU	Description	Reason
1	Autodyne Manufacturing Co., Inc.	TBD	Suffolk	Long Island	LIPA	Manufacturer of military spare parts	The applicant's power demand is insufficient to support an award of RNY Power and to meet other program requirements, and a RNY Power allocation based on such power demand is unlikely to have a meaningful impact on the applicant's operating costs.
2	MPI Consulting Incorporated	Bohemia	Suffolk	Long Island	LIPA	Supplier of aerospace machining components	The applicant's power demand is insufficient to support an award of RNY Power and to meet other program requirements, and a RNY Power allocation based on such power demand is unlikely to have a meaningful impact on the applicant's operating costs.
3	RMR International Co., Inc.	Deer Park	Suffolk	Long Island	LIPA	Manufacturer of round and flat wire	The applicant's power demand is insufficient to support an award of RNY Power and to meet other program requirements, and a RNY Power allocation based on such power demand is unlikely to have a meaningful impact on the applicant's operating costs.
4	BerryBizzy Human Being, Inc.	New York	New York	New York City	CONED	Workforce development and training	Facility lacks demand meter, preventing RNY Power delivery and billing
5	Dancewave, Inc.	Brooklyn	Kings	New York City	CONED	Not-for-profit dance education center	The applicant's power demand is insufficient to support an award of RNY Power and to meet other program requirements, and a RNY Power allocation based on such power demand is unlikely to have a meaningful impact on the applicant's operating costs.

**New York Power Authority
ReCharge New York Power Program
Applications Rejected**

**Exhibit "7c-F"
December 17, 2015**

Line	Company	City	County	Economic Development Region	IOU	Description	Reason
1	Felix Schoeller North America, Inc.	Pulaski	Oswego	Central New York	NGRID	Digital imaging production	Applicant has been unresponsive to requests by staff for additional information, preventing a complete analysis of the application.
2	Aljo-Gefa Precision Manufacturing, LLC	Old Bethpage	Nassau	Long Island	CONED	Manufacturer of aerospace parts	Applicant has been unresponsive to requests by staff for additional information, preventing a complete analysis of the application.
3	Garibaldi Meucci Museum	Staten Island	Richmond	New York City	CONED	Museum	Applicant has been unresponsive to requests by staff for additional information, preventing a complete analysis of the application.