

NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY
MINUTES OF THE TWO HUNDRED THIRTY-SECOND MEETING
HELD ON SEPTEMBER 20, 2016

Pursuant to a notice dated September 9, 2016, the two hundred thirty-second (232nd) meeting of the New York State Energy Research and Development Authority (“Authority”) was convened on Tuesday, September 20, 2016, at 2:00 p.m., in the Authority’s Albany Office at 17 Columbia Circle, Albany, New York, and by videoconference in the Authority’s New York City Office located at 1359 Broadway, 19th Floor, New York, New York.

The following members of the Authority were present:

Richard L. Kauffman, Chair of the Authority
Sherburne B. Abbott
Charles Bell
Kenneth D. Daly
Jay L. Koh, *by videoconference in New York City*
John McAvoy
Gil C. Quiniones, *by videoconference in New York City*
Elizabeth W. Thorndike, Ph.D.
Mark A. Willis
Audrey Zibelman, *by videoconference in New York City*

Members Driscoll, Seggos and Shah were unable to attend.

Also present were John B. Rhodes, President and CEO; David Margalit, Chief Operating Officer; Janet Joseph, Vice President for Technology and Strategic Planning; Jeffrey J. Pitkin, Treasurer; Noah C. Shaw, Esq., General Counsel and Secretary; Sara L. LeCain, Esq., Senior Counsel; Radmila Miletich, Independent Power Producers of New York; Conor Bambrick, Environmental Advocates of New York; Michael Bailey; Jacquelyn Jerry; and various other staff of the Authority.

The Chair called the meeting to order and noted the presence of a quorum. He stated that the meeting notice and agenda were mailed to the Members and press on September 9, 2016. Mr. Kauffman directed that a copy of the notice and agenda be annexed to the minutes of the meeting.

Before turning to the formal agenda, Mr. Kauffman asked John B. Rhodes, the Authority's President and CEO, to provide the Members with an update on the Authority's recent activities.

Mr. Kauffman stated that the first item on the agenda was proposed revisions to the Authority's 2016-2017 Fiscal Year Budget. The Chair of the Program Planning Committee ("PPC"), Mark Willis, provided a report on the portion of the revised budget considered by the PPC.

Mr. Willis reported that the PPC unanimously recommended that the Members adopt the resolution approving revisions to the 2016-2017 Fiscal Year Budget.

The Chair then provided the members with a report on the portion of the revised 2016-2017 Fiscal Year Budget considered by the Waste and Facilities Management Committee ("W&FMC"), as the W&FMC's Chair, Elizabeth Thorndike, was unable to attend the meeting.

The Chair indicated that the W&FMC unanimously recommended that the Members adopt the resolution approving revisions to the 2016-2017 Fiscal Year Budget for the Western New York Nuclear Service Center ("West Valley") and Radioactive Waste Policy and Nuclear Coordination activities.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote of the Members present, the following resolution was adopted.

Resolution No. 1470

RESOLVED, that the Fiscal Year 2016-2017 Budget and Financial Plan (Revised September 2016) submitted to the Members for consideration at this

meeting, with such non-material, editorial changes and supplementary schedules as the President and CEO, in his discretion, may deem necessary or appropriate, be and it hereby is recommended for approval by the Board.

The Chair indicated that the next item on the agenda was approval of the Authority's State Budget Request for Fiscal Year 2017-2018 ("2017-2018 Budget Request"). Mr. Willis stated that the PPC received a report regarding the Authority's 2017-2018 Budget Request, which is submitted annually to the Division of the Budget and sets forth the Authority's request for funding to be provided through the State Budget.

Mr. Willis indicated that the PPC unanimously recommended that the Members adopt the resolution approving the 2017-2018 Budget Request.

Then, Mr. Kauffman reported on the portions of the 2017-2018 Budget Request considered by the W&FMC.

The Chair indicated that the W&FMC unanimously recommended that the Members adopt the resolution approving the proposed 2017-2018 Budget Request for West Valley and Radioactive Waste Policy and Nuclear Coordination activities.

Resolution No. 1471

RESOLVED, that the proposed State Budget Request for Fiscal Year 2017-2018 submitted to the Members for consideration at this meeting, with such non-material, editorial changes and supplementary schedules as the President and CEO, in his discretion, may deem necessary or appropriate, be, and it hereby is, recommended to be adopted and approved by the Board for submission to, and at the request of, the New York State Division of the Budget.

The Chair indicated that the next item on the agenda was a report on the remaining items discussed by the PPC. Mr. Willis stated that the PPC received a report from President and CEO John Rhodes, Vice President for Technology and Strategic Planning Janet Joseph, Chief Operating Officer David Margalit, and Program Manager for Large-Scale Renewables Doreen Harris, on the

Authority's Strategic Plan entitled, "*Toward a Clean Energy Future: A Strategic Outlook 2017-2020*" ("Strategic Outlook"). Mr. Willis stated that the Strategic Outlook identified the Authority's Mission, Vision and targeted Mission Outcomes. He indicated that the Strategic Outlook supports the advancement of new clean energy technologies and development of markets for products and services.

Mr. Willis indicated that there was a good discussion at the PPC Meeting and staff detailed how the Members will be informed about the progress of the Strategic Outlook.

Mr. Koh commended management on the development of a very comprehensive and clear Strategic Outlook that includes specific metrics providing context for the Members to make decisions on budget, operations, and oversight.

Mr. McAvoy agreed that the Strategic Outlook is very comprehensive and brings together all of the different energy goals that the Authority and the State are trying to achieve.

Mr. Daly commented that there is a nice mix of fixed components that are needed but includes enough flexibility that the Authority can adapt to changes in the market.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote of the Members present, the following resolution was adopted.

Resolution No. 1472

RESOLVED, that the outlook for the Authority's energy, economic environmental program priorities and strategic vision entitled *Toward a Clean Energy Future: A Strategic Outlook 2017-2020*, submitted to the Members for consideration at this meeting with such non-substantive, editorial changes and supplementary schedules as the President, in his discretion, may deem necessary or appropriate, is recommended to be adopted and approved by the Board as the Authority's updated Strategic Outlook.

BE IT FURTHER RESOLVED, that the Authority's Performance Measurements, as contained in the Strategic Outlook, are recommended for approval by the Board.

Mr. Kauffman indicated that the next item on the agenda was a report on the remaining items considered at the W&FMC meeting. Mr. Kauffman reported that the W&FMC met earlier in the day and received a status report from Paul Bembia, Director of the West Valley Site Management activities which focused on the results of soil sampling and dose assessment work he and his team have been conducting over the last year on properties near the Western New York Nuclear Service Center. As reported in April, hundreds of soil samples were collected from many locations within the five off-site areas where above-background radiation levels were identified during aerial surveys, including some on Seneca Nation territory. None of the sample results indicate a public health and safety concern in any of the areas sampled. All of the properties meet the public health and safety standards.

Mr. Kauffman explained that in regard to the public health and safety standards, the standards are expressed in terms of radiation dose to a member of the public who uses these properties. Two of the locations located on the territory of the Seneca Nation of Indians will require more analysis, owing to the unique ways in which the Seneca Nation use their land.

Mr. Kauffman indicated that during these soil collection activities, Mr. Bembia and his team talked with the property owners about how their property is used today, and that information was used to estimate the radiation dose. To estimate the radiation dose, a computer model is used to combine the radionuclide concentration data from the Authority's soil samples with information about how the property is used by the property owners.

Mr. Kauffman stated that at the request of the regulatory agencies, Mr. Bembia's team also considered how the property could be used in the future, and Paul had an estimate prepared of the radiation dose for a "conservative future use" of the property. In this case, that conservative future use is a farmer who lives and farms right on the spot showing higher readings. Even under this conservative approach, all of the properties sampled meet the public health and safety standards. Thus, there is no health and safety concern, and the properties are well below the Nuclear Regulatory Commission's standard for unrestricted use.

Mr. Kauffman concluded the report by stating that the results for these three areas near the Western New York Nuclear Service Center were presented at the West Valley Demonstration Project (“WVDP”) Quarterly Public Meeting held on August 24, 2016. The information on the two Seneca Nation locations will be presented at the WVDP Quarterly Public Meeting on November 16, 2016 after dose assessments are completed.

Mr. Kauffman stated that no formal action was taken.

Mr. Willis indicated that Mr. Koh might need to leave early and asked the Authority’s Chair to adjust the order of the agenda to allow Mr. Koh to present his items before his departure. However, before Mr. Koh began, Mr. Willis asked if he and Mr. Koh could provide the Members with a brief report of a presentation they received from NY Green Bank on how NY Green Bank has aligned with the objectives of the overall program and key targets while managing the risks to ensure that the portfolio remains balanced from a risk perspective.

Mr. Willis noted that one of the overlaps is the issue of accounting and how the Members are kept informed of when investments are not realized or when a credit deteriorates over time. Therefore, Mr. Willis and Mr. Koh proposed that there be regular structure to the report on NY Green Bank activities that the Members receive at each meeting.

The Chair indicated that the next item on the agenda was a report on items considered by the Audit and Finance Committee (“A&FC”), including proposed amendments to the Internal Control Manual. Mr. Kauffman asked the Chair of the A&FC, Jay Koh, to provide the Members with a report on this item. Mr. Koh stated that the A&FC received a report from Jeffrey J. Pitkin, the Authority’s Internal Control Officer, on the proposed amendments to the Authority’s Internal Control Manual. The proposed amendments include changes to the contract award processes, consistent with the Procurement Contracts Guidelines; incorporation of changes to the *Standards for Internal Control in New York State Government* issued by the New York State Comptroller in March 2016; revisions to various staff titles, organizational units, and program areas; and various updating, editorial, and clarifying changes.

Mr. Koh indicated that the A&FC unanimously recommended approval of the resolution approving the amendments to the Internal Control Manual.

Resolution No. 1473

RESOLVED, that the amendments to the Internal Control Manual, as submitted at this September 20, 2016 meeting, be and they hereby are recommended to be adopted and approved by the Board.

Mr. Kauffman stated that the next item considered by the A&FC was a resolution authorizing the issuance of the Residential Solar Loan Revenue Bonds Series 2016, and called upon Mr. Koh to provide the report. Mr. Koh stated that the A&FC received a report from the Authority's Treasurer, Jeffrey Pitkin on the proposed issuance of bonds in an aggregate principal amount not to exceed \$40,000,000 by amending and extending the current credit facility for an additional twelve months through September 30, 2017. The Bonds will be issued to finance loans issued through the Green Jobs – Green New York Program (the "Program") to finance the installation of residential photovoltaic ("PV") systems ("Solar Loans").

Mr. Koh explained that the proposed Bonds will require the approval of the Public Authorities Control Board, and certain aspects will require approval by the Office of the State Comptroller and the New York State Department of Taxation and Finance.

Mr. Koh indicated that the A&FC unanimously recommended approval of the resolution authorizing the issuance of the Residential Solar Loan Revenue Bonds Series 2016.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote of the Members present, the following resolution was adopted.

Resolution No. 1474

WHEREAS, pursuant to special act of the Legislature of the State of New York (Title 9 of Article 8 of the Public Authorities Law of New York, as from time to time amended and supplemented, herein called the "Act"), the New York State Energy Research and Development Authority (the "Authority") has been

established as a body corporate and politic, constituting a public benefit corporation; and

WHEREAS, pursuant to the Act, the Authority is authorized to issue bonds and notes to provide sufficient moneys for achieving the Authority's corporate purposes, including the establishment of reserves to secure the bonds and notes and the payment of interest on bonds and notes; and

WHEREAS, pursuant to the Act, the Authority is also empowered to extend credit and make loans from bond proceeds to any person for the construction, acquisition, installation of, or for the reimbursement to any person for costs in connection with, any special energy project, including, but not limited to, any land, works, system, building, or other improvement, and all real and personal properties of any nature or any interest in any of them which are suitable for or related to the furnishing, generation, production, transmission, or distribution of energy or energy resources; and

WHEREAS, pursuant to special act of the Legislature of the State of New York (Title 9-A of Article of the Public Authorities Law of New York, as from time to time amended and supplemented, herein called the "Green Jobs – Green New York Program"), the Authority has been authorized to use innovative financing mechanisms to finance energy efficiency improvements and technologies eligible for net metering through energy cost savings; and

WHEREAS, the Authority authorized the issuance of its "Residential Solar Loan Revenue Bonds, Series 2015 (Federally Taxable)" in the aggregate principal amount of \$50,000,000 (the "Series 2015 Bonds") on October 29, 2015 for the purpose of financing loans through the Green Jobs – Green New York Program for the installation of residential photovoltaic, or PV, systems ("Solar Loans"); and

WHEREAS, the Series 2015 Bonds were issued pursuant to an Indenture of Trust (the "2015 Indenture"), dated October 1, 2015, between the Authority and Manufacturers and Traders Trust Company ("M&T"), as trustee; and

WHEREAS, the Series 2015 Bonds were issued pursuant to a credit agreement (the "2015 Credit Agreement"), dated October 1, 2015, between the Authority and M&T pursuant to which M&T agreed, subject to certain conditions set forth therein, to advance moneys to the Authority to finance Solar Loans; and

WHEREAS, the Authority will issue additional bonds in one or more series at one or more times not later than September 30, 2017, in an aggregate principal amount not to exceed \$40,000,000 to be designated "Residential Solar Loan Revenue Bonds, Series 2016" (the "Bonds") and with such additional or different designations as may be set forth in the 2016 Credit Agreement (hereinafter defined) for the purpose of financing loans through the Green Jobs – Green New York

Program for the installation of residential photovoltaic, or PV, systems (“Solar Loans”); and

WHEREAS, the Bonds are to be issued pursuant to either a new credit agreement or an amendment to the existing credit agreement (in each case, the “2016 Credit Agreement”), between the Authority and M&T pursuant to which M&T will agree, subject to certain conditions set forth therein, to advance moneys to the Authority to finance Solar Loans; and

WHEREAS, the Authority has entered into an agreement with Wisconsin Energy Conservation Corporation d/b/a Energy Finance Solutions, a not-for-profit corporation, to serve as a loan originator under the Green Jobs – Green New York Program; and

WHEREAS, the Authority has entered into an agreement with Concord Servicing Corporation who will act as the loan servicer and will be the custodian of the original promissory notes for the Solar Loans issued under the Green Jobs – Green New York Program; and

WHEREAS, the proceeds of the Bonds will be used to reimburse the Green Jobs-Green New York Program revolving loan fund for Solar Loans heretofore originated and outstanding and to provide funding for new Solar Loans originated and to be originated thereafter; and

WHEREAS, the Authority will pledge principal and interest payments on, and prepayments of, Solar Loans as security for the Bonds pursuant to the terms of a supplemental or amended indenture of trust (the “2016 Indenture”), a copy of the draft form of which has been set before this meeting ; and

NOW, THEREFORE, BE IT RESOLVED BY THE MEMBERS OF THE NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY AS FOLLOWS:

Section 1. The offering, issuance, sale, and delivery of the Bonds upon the terms and conditions and for the purposes described in the 2016 Credit Agreement and this resolution are hereby authorized. The Bonds shall be issued in one or more series in an aggregate principal amount not to exceed \$40,000,000 and shall bear interest at rates determined in accordance with the 2016 Credit Agreement. Eighty percent (80%) of the principal amount of the Bonds shall bear interest at a fixed rates of interest determined at the time of each advance under the 2016 Credit Agreement not to exceed seven per cent (7%) per annum and twenty percent (20%) of the principal amount of the Bonds shall bear interest at a variable rate of interest determined in accordance with the 2016 Credit Agreement not to exceed eleven per cent (11%). The Bonds shall mature no later than September 30, 2027. The Bonds shall be dated, have the final maturity, have the designation or designations, be

subject to redemption, be payable as to principal, premium, if any, and interest, and have such other provisions all as set forth in the 2016 Credit Agreement. The form of the Bonds and all other provisions with respect thereto shall be as set forth in the 2016 Credit Agreement or determined in the manner set forth therein. No Bonds shall be issued pursuant to this resolution after September 30, 2017.

Section 2. Subject to the limitations set forth in Section 1 hereof, the Chair, the Vice Chair, the President and CEO, the Vice Presidents, the Treasurer, or the Secretary of the Authority (collectively, the "Authorized Representatives") are each hereby authorized to determine on behalf of the Authority with respect to the Bonds: the aggregate principal amount, the interest rates the Bonds shall bear and the particular redemption and purchase provisions of the Bonds. Any such determination shall be conclusively evidenced by the execution and delivery by an Authorized Representative of the 2016 Credit Agreement or other document setting forth such determination.

Section 3. The Authorized Representatives are each hereby authorized to execute, acknowledge, and deliver the 2016 Credit Agreement and the 2016 Indenture, with such amendments, supplements, changes, insertions, and omissions to the forms presented to this meeting as such Authorized Representative shall approve. Execution of such documents by an Authorized Representative shall be conclusive evidence of any approval required by this Section. Any Authorized Representative, the Assistant Treasurer, and the Acting Secretary of the Authority are each hereby authorized to affix the seal of the Authority on such documents and attest the same.

Section 4. The Bonds shall be executed in the manner and upon the terms and conditions provided in the 2016 Credit Agreement. Manufacturers Traders and Trust Company is hereby designated Trustee for the Bonds. In the event that Manufacturers Traders and Trust Company shall resign as Trustee, or otherwise be unable to act as Trustee, the Authorized Representatives of the Authority are each authorized to designate a successor to act in such capacity.

Section 5. The Authorized Representatives are each hereby authorized and directed to execute and deliver any such other agreements, documents, or certificates, including certificates confirming on behalf of the Authority the accuracy and completeness of information relating to the Bonds, the Authority, the Solar Loans and the Green Jobs – Green New York Program delivered to M&T to do and cause to be done any such other acts and things and to make such other changes, omissions, insertions, revisions, or amendments to the documents referred to in Sections 1 through 4 of this resolution as they may determine necessary or proper for carrying out, giving effect to, and consummating the transactions contemplated by this resolution, the 2016 Credit Agreement or the 2016 Indenture, delivered pursuant thereto.

Section 6. The Bonds shall not be general obligations of the Authority, and shall not constitute an indebtedness of or a charge against the general credit of the Authority. The Bonds will not constitute a debt of the State of New York and the State of New York will not be liable thereon. No owner of the Bonds will have any right to demand payment of the principal of and interest on the Bonds out of any funds to be raised by taxation. As shall be more particularly set forth in the 2016 Credit Agreement, the 2016 Indenture and the Bonds, the liability of the Authority under the Bonds shall be enforceable only to the extent provided in the 2016 Credit Agreement and the 2016 Indenture, and the Bonds shall be payable solely from the revenues and other funds pledged and available for the payment of the Bonds under the terms of the 2016 Credit Agreement and the 2016 Indenture.

The Chair stated that the next item on the agenda was proposed amendments to the Procurement Contracts Guidelines, Operative Policy and Instructions. Mr. Kauffman stated that Noah C. Shaw, the Authority's General Counsel would discuss this matter. Mr. Shaw stated that the Members are requested to adopt a resolution approving revisions to the Procurement Contracts Guidelines, Operative Policy and Instructions. The revisions include modifying the title of the document to the Procurement and Program Contract Guidelines, Operative Policy and Instructions, September 2016 (the "Guidelines"). The Guidelines set forth the Authority's operative policies and procedures to guide staff on the use, awarding, monitoring, and reporting of the Authority's contracts.

Mr. Shaw indicated that Management proposes to update the Guidelines with appropriate and compliant policies and procedures regarding non-procurement contracting, that would be referred to as "Program Contracting," and also with respect to certain Board approval and reporting practices. The Members have already approved making similar changes to the Internal Control Manual, and in a later agenda item, the Members will be asked to consider approving amendments to the Authority's By-laws to incorporate these changes.

For background, Mr. Shaw explained that it is important to understand the baseline definitions of a "Procurement Contract" and a "Program Contract." Procurement Contract is defined in the Public Authorities Law as a written agreement for the acquisition of goods or services in the actual or estimated amount of \$5,000 or more. The Public Authorities Law requires the board to approve Procurement Contracts if they have a term of more than one year.

Mr. Shaw stated that Program Contracts, on the other hand, are not defined in the Public Authorities Law. However, what the Authority calls Program Contracts make up the majority of the Authority's contracting activities – these are *not* contracts for the purchase of goods or services but, rather, generally take the familiar form of grants, incentives and other mechanisms used to reach an energy market objective. Historically, management has asked the Members to approve every single Authority contract over \$5,000 even though approval of non-procurement Program Contracts was not required by law.

Mr. Shaw explained that the first significant proposed revision to the Guidelines is the redefinition of Program Contracts to include nearly all Authority contracts that are not Procurement Contracts. The definition of Program Contract is now proposed to expressly include grants, investments, awards, incentives, memberships and other arrangements by which the Authority provides financial assistance to fund a third party's performance of work in furtherance of the mission of the Authority. Additionally, the definition of Program Contract would now expressly exclude: Green Bank activities such as loans, guarantees, letters of credit and other contractual arrangements, because these types of transactions are governed by the Authority's Internal Control Manual and the Green Bank's rules and guidelines; and contracts for interests in real property, because those contracts are governed by separate provisions of the Public Authorities Law.

Mr. Shaw indicated that the second notable proposed revision is the addition of a specific acknowledgement that expenditures the Authority is directed by law or order to make are not subject to the Guidelines. This acknowledgement would make clear that where, for example, State law, an Order of the Public Service Commission or an Order of a court with jurisdiction over the Authority directs the Authority to expend funds in a certain manner, the Guidelines are effectively superseded.

Then, Mr. Shaw explained that the third proposed revision is the addition of two noncompetitive justifications to capture certain contracting activities that are not appropriate for competitive processes. The first is for memberships in trade groups and professional societies if

an Officer deems the membership is aligned with the strategy of the Authority and is beneficial to its mission. The second is for the sponsorships and procurements of space for conferences.

Mr. Shaw stated that the fourth significant proposed revision has to do with modifying the Board approval thresholds. This change is in keeping with the distinction between Procurement and Program Contracts, and is in keeping with State law and the practices of other State authorities. As required by law, the Board will continue to approve Procurement Contracts with periods of performance in excess of one year. In addition to that baseline requirement, the proposed updates expressly require Board approval for Program Contracts competitively selected over \$3 Million and Program Contracts noncompetitively selected over \$1 Million. This requirement ensures that the Board is approving not only those contracts required by law but also those additional Program Contracts that are subject to Office of the State Comptroller notification and for which management believes Board approval is prudent. On the other hand, this revision to the Guidelines makes clear that the Board need not be asked to approve the large number of relatively lower-dollar and often formulaic Program Contracts that have been historically included in the “Procurement Report”.

Mr. Shaw indicated that the last substantial proposed revision relates to changing board reporting practices to bring those into line with the distinction between Procurement Contracts and Program Contracts, while still adhering closely to the requirements of Public Authorities Law. The Authority will, as required, continue to provide its Members with an annual report, for their review and approval, regarding its Procurement Contracts – but Program Contracts will not, and need not, be included in that Public Authority Law-required report. Instead, the Authority will provide the Members with a separate annual report on Program Contracts, which report will include a description of the program contracting performed during the prior fiscal year, broken down by portfolio and program. This report is intended to be sufficient to provide the Members an accurate reflection of the kinds and level of investment made by each of the Authority’s programmatic portfolios. Furthermore, this Annual Program Contracts Report, as well as the Annual Procurement Report, will be available on the Authority’s website.

Mr. Shaw noted that it is important to underscore that under these new proposed reporting requirements, the Members will receive the same information as under the current Guidelines; however, the information will now be split between Procurement Contracts and Program Contracts, and the information regarding Program Contracts will be formatted and presented in a manner that is more useful in assessing actual program activity.

In response to an inquiry from Mr. Koh, Mr. Shaw confirmed that the reporting changes will not affect the information that is provided to internal and external auditors. It merely changes what is presented to the Members for approval and how the data is presented.

In response to an inquiry from Mr. Kauffman, Mr. Shaw indicated that staff spoke with a number of authorities around the State and found there is only one other authority that has the same volume of non-procurement contracts as the Authority that is presented to their board for approval. Others have instituted their own internal levels for presenting certain non-procurement contracts to their boards for approval. The Public Authorities Law requires that procurement contracts for a period of more than one-year must be approved by an authority's board. However, the same requirements do not exist for non-procurement contracts. These amendments establish a practice that is in line with how other public authorities manage their non-procurement contracts.

In response to an inquiry from Ms. Zibelman, Mr. Shaw confirmed that there will not be a change in how the Members should handle any conflicts of interest. However, Mr. Shaw indicated that it would be less likely that the Members will have any conflicts as they will only be asked to approve Program Contracts when they are for an amount greater than \$3 Million if competitively selected and \$1 million if it is a non-competitive Program Contract. If the Authority were purchasing products or services from a consulting firm in which a Board Member had an interest or worked, a conflict might arise. The conflict will be noted and the Member would need to recuse himself or herself from the vote with respect to the subject contract.

In response to an inquiry from Mr. Willis, Mr. Shaw explained that a Procurement Contract is for the purchase of goods or services for an amount greater than \$50,000 and for a period in excess of one year.

In response to an inquiry from Mr. Koh, Mr. Shaw confirmed that the same aggregate data will be reported to the Members.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote of the Committee members present, the following resolution was adopted.

Resolution No. 1475

RESOLVED, that the Authority's Procurement Contracts Guidelines, Operative Policy and Instructions, as amended and replaced by the Procurement and Program Contracts Guidelines, Operative Policy and Instructions, as presented at this September 20, 2016 meeting, are approved and adopted.

The Chair stated that the next item to be considered was proposed amendments to the Authority's By-Laws, and asked Mr. Shaw to discuss the item.

Mr. Shaw stated that the Members are requested to adopt a resolution amending the Authority's By-laws by adding references to the Authority's Procurement and Program Contracts Guidelines, Operative Policy and Instructions; re-designating the Vice President for Technology and Strategic Planning as the Vice President for Innovation and Strategy; and amending Article V, Section 5, Program Planning Committee, to better reflect the Authority's initiatives.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote of the Committee members present, the following resolution was adopted.

Resolution No. 1476

RESOLVED, that the amendment to the Authority's By-laws, adding references to the Authority's Procurement and Program Contracts Guidelines, Operative Policy and Instructions; re-designating the Vice President for Technology and Strategic Planning as the Vice President for Innovation and Strategy; and amending Article V, Section 5, Program Planning Committee, as presented at this September 20, 2016 meeting, is hereby approved by the Board.

Mr. Kauffman indicated that the next item on the agenda was a report on the NY Green Bank from Alfred Griffin, President of NY Green Bank. Mr. Griffin provided the Members with

a status report on the activities of NY Green Bank, including recently closed transactions and the status of NY Green Bank's portfolio.

Mr. Kauffman thanked Mr. Griffin for the excellent report and noted that NY Green Bank continues to close transactions and continues to increase its pipeline of proposed transactions.

The Chair stated that the next item on the agenda was the Periodic Procurement Contracts Report to be presented by Cheryl Glanton, Director of Contract Management. Ms. Glanton stated that, pursuant to Public Authorities Law Section 2879, the Members are requested to adopt a resolution approving the Periodic Procurement Contracts Report covering the period May 16, 2016 through August 15, 2016. The report summarizes 841 procurement contracts exceeding \$5,000 that were initiated or modified during the period. Over 93% of the procurement contracts were competitively selected, and 98% of the dollars committed resulted from competitive procurement. Furthermore, all of the actions were in compliance with the procurement contract guidelines. The report also summarized an additional 953 procurement contracts expected to be executed by the Authority and that have a period of expected performance in excess of one year. These contract actions total approximately \$243 million. Ms. Glanton stated that the Members have also been provided with a periodic report on Authority compliance with Article 15-a of the Executive Law. Of the 36 contracts subject to Article 15-a which were initiated or modified during the reporting period, 13 were awarded to certified Minority and Women-Owned Business Enterprises ("M/WBE"), representing 42% of the total contract amounts.

Mr. Daly thanked Ms. Glanton for the granularity report and noted that M/WBE participation doubled from the last quarter.

In response to an inquiry from Mr. Willis, Ms. Glanton stated that the M/WBE participation increased as a result of the Authority implementing a large Information Technology project using an M/WBE contractor. Ms. Glanton also noted that the Authority is in the process of selecting several marketing contractors, which will require M/WBE participation.

Mr. McAvoy commented that the addition of the graphs and charts, as well as the change in the Guidelines, will make the Board more efficient and effective.

At the conclusion of Ms. Glanton's report, she introduced Janet Joseph, Vice President for Technology and Strategic Planning, to discuss the Brookhaven National Laboratory. Ms. Joseph stated that the Authority is developing a project with Brookhaven National Laboratory at Cornell University entitled C Beta Test Accelerator, which is listed on the Periodic Procurement Report. The purpose of the project is to test a prototype energy recovery system for an electron ion collider facility. The ion collider would be used for research purposes.

Ms. Joseph explained that Brookhaven National Laboratory currently has a research ion collider that was built over 20 years ago and they are among the leading research centers in high energy physics in the world. The nuclear science community and the U.S. Department of Energy ("DOE") have concluded that in order to continue to drive the frontiers of high energy physics and the basic understanding of matter, a next generation ion collider is needed – one that has higher resolution and beam intensity. This is one of the top recommendations of DOE's 2015 Nuclear Science Advisory Committee.

Ms. Joseph stated that DOE has indicated that it will invest in such a facility, and staff believe that the Authority's investment will significantly improve the Brookhaven National Laboratory's chance of winning the DOE award. There are two candidate locations in the United States for a next generation ion collider research facility: Brookhaven National Laboratory on Long Island and the Thomas Jefferson National Accelerator Facility in Virginia.

Ms. Joseph explained that investment in a full-scale, next generation ion collider facility would bring \$700 Million of capital investment and \$200 Million per year in operation over 20 years. The State has committed to helping Brookhaven National Laboratory secure this investment.

Ms. Joseph explained that from an energy perspective, the development of this prototype energy recovery design is very significant. Ion colliders are energy intensive by nature. In essence,

ion colliders are basically smashing matter into its component pieces to understand behavior. The innovative design that is being explored in this project, if successful, would reduce peak electric demand of a full scale ion collider facility by 35 megawatt - with an annual electric energy savings of 140,000 megawatts per hour. This is equivalent to the electricity consumed by 21,000 homes per year. This would equate to a greenhouse gases (“GHG”) savings of about 1.4 million tons over a 20-year period. Ms. Joseph indicated that the GHG reduction for the investment that is being proposed is comparable to the overall Clean Energy Fund portfolio goals.

Ms. Joseph indicated that staff has sought independent outside technical review of this proposal to develop the prototype design. According to experts from CERN, the European Organization for Nuclear Research, which operates the largest particle physics laboratory in the world outside of Geneva, Switzerland, this proposal is very credible, high quality. CERN found the Brookhaven National Laboratory and Cornell University team to have unique capabilities and facilities to get the work done and the project, if completed, could produce game-changing research and energy-savings results.

Ms. Joseph concluded her remarks by stating that this unique federal and State partnership offers a very substantial economic development value proposition for the State, as well as compelling energy and GHG reduction benefits.

Mr. Daly complimented staff on the vision and advance energy innovation. He indicated that this project will clearly help the economy.

In response to an inquiry from Mr. McAvoy, Ms. Joseph stated that the project being supported is the development of a prototype system with Brookhaven National Laboratory and Cornell University only. If DOE does not award the funding to Brookhaven National Laboratory, the Authority will not be providing the funding to the other awarded project.

In response to an inquiry from Dr. Thorndike, Mr. Rhodes stated there is an advantage to the entity that successfully completes the first prototype. Brookhaven National Laboratory is in a tight race with the Thomas Jefferson National Accelerator Facility.

Mr. Kauffman indicated that Counsel's office has compared the lists provided by Members of entities with which each member is associated and which he or she believes may enter into contracts with the Authority to the list of contracts in the Periodic Procurement Report for contracts which have been, or expected to be, executed and which do have, or are expected to have, a period of performance in excess of one year. Counsel's office reports just a few potential conflicts. Specifically, the Authority has entered into or anticipates entering into contracts with Consolidated Edison Company of New York, Inc. and Orange & Rockland Utilities, Inc., identified by Mr. McAvoy; Cornell University and University of Rochester, identified by Dr. Thorndike; National Grid, identified by Ken Daly; and New York University, identified by Mr. Willis.

In response to an inquiry from Mr. Willis, Sara LeCain, Senior Counsel, confirmed that only the contracts on this report are identified as potential conflicts.

Thereafter, upon motion duly made and seconded, and by voice vote of the Members present, the following resolution was passed. Mr. McAvoy, Dr. Thorndike, Mr. Daly, and Mr. Willis abstained from the vote solely with regard to contracts involving the respective entities identified by each of them above.

Resolution No. 1477

RESOLVED, that the Periodic Procurement Contracts Report, covering the period May 16, 2016 through August 15, 2016, as presented at this meeting, including but not limited to the contracts identified therein which have been, or are expected to be, executed and which do have, or are expected to have, a period of performance in excess of one year, is hereby approved in accordance with Public Authorities Law Section 2879.

The Chair indicated that the next item on the agenda concerned an executive session to discuss the employment history of a particular person.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote, the Members adopted the following resolution.

Resolution No. 1478

RESOLVED, that pursuant to Section 105 of the Public Officers Law, the Members of the New York State Energy Research and Development Authority shall convene in executive session on September 20, 2016 for the purpose of discussing the employment history of a particular person.

Mr. Kauffman reconvened the meeting in open session. No formal action was taken during the executive session.

The Chair then indicated that the last item on the agenda was other business.

The Chair advised that Authority staff has contacted each of the Members' offices and provided meeting dates for Board and Committee meetings in 2017 in order to have the dates marked on Members' calendars. He encouraged everyone to keep those dates reserved so that the Board can obtain the quorum needed to do business and also have the benefit of the participation and expertise of as many Members as possible.

Thereafter, there being no other business, upon motion duly made and seconded, and by unanimous voice vote of the members, the meeting was adjourned.



Noah C. Shaw
Secretary



NYSERDA

ANDREW M. CUOMO
Governor

RICHARD L. KAUFFMAN
Chair

JOHN B. RHODES
President and CEO

September 9, 2016

NOTICE OF MEETING AND AGENDA

TO THE MEMBERS OF THE NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY:

PLEASE TAKE NOTICE that a regular Meeting (the 232nd meeting) of the New York State Energy Research and Development Authority will be held in the Authority's Albany Office at 17 Columbia Circle, Albany, New York, and by webcast in the Authority's New York City Office located at 1359 Broadway, New York, New York, on Tuesday, September 20, 2016, commencing at 2:00 p.m., for the following purposes:

1. To receive from the Program Planning Committee and the Waste and Facilities Management Committee reports concerning, and to consider and act upon a resolution approving, revisions to the Authority's Fiscal Year 2016-17 budget.
2. To receive from the Program Planning Committee and the Waste and Facilities Management Committee reports concerning, and to consider and act upon a resolution approving, the Authority's State Budget Request For Fiscal Year 2017-18.
3. To receive a report from the Program Planning Committee and to consider and act upon a resolution approving the strategic plan entitled *Toward A Clean Energy Future - A Strategic Outlook 2017-2020*, and to receive an update on the Authority's Clean Energy Fund initiatives.
4. To receive a report from the Waste and Facilities Management Committee.
5. To consider and act upon a resolution approving amendments to the Authority's *Procurement Contracts Guidelines, Operative Policy and Instructions (September 2016)*.
6. To consider and act upon a resolution approving amendments to the Authority's By-laws.
7. To receive a report from the Audit and Finance Committee and
 - a. to consider and act upon a resolution approving amendments to the Internal Control Manual; and

New York State Energy Research and Development Authority

Albany
17 Columbia Circle, Albany, NY 12203-6399
(P) 1-866-NYSERDA | (F) 518-862-1091
nyserda.ny.gov | info@nyserda.ny.gov

Buffalo
726 Exchange Street
Suite 821
Buffalo, NY
14210-1484
(P) 716-842-1522
(F) 716-842-0156

New York City
1359 Broadway
19th Floor
New York, NY
10018-7842
(P) 212-971-5342
(F) 518-862-1091

**West Valley Site
Management Program**
9030-B Route 219
West Valley, NY
14171-9500
(P) 716-942-9960
(F) 716-942-9961

- b. to consider and act upon a resolution approving the issuance of the Residential Solar Loan Revenue Bonds Series 2016.
8. To receive a report on NY Green Bank activities.
9. To consider and act upon a resolution approving a periodic procurement contracts report.
10. To consider and act upon a resolution to convene in executive session for the purpose of discussing the employment history of a particular person.
11. To transact such other business as may properly come before the meeting.

Members of the public may attend the meeting at either of the above locations. Video conferencing will be used at both locations and the Authority will be posting a video of the meeting to the web within a reasonable time after the meeting. The video will be posted at <http://www.nyserda.ny.gov/About/Board-Governance/Board-and-Committee-Meetings>.



Noah C. Shaw
Secretary