



**Competitive Greenhouse Gas Reduction Program
Request for Proposals (RFP) 3172
Up to \$13.5 Million**

Proposals Due: March 31, 2016 by 5:00 PM Eastern Time*

The New York State Energy Research and Development Authority (NYSERDA) seeks proposals to demonstrate technologies that reduce greenhouse gas (GHG) emissions from the power sector in New York State above and beyond those expected through compliance with any existing regulation. Applicable power sector projects include those involving units that serve as an electricity generator with a Nameplate Capacity equal to or greater than 25 MWe and a remaining operational life of at least ten years. Projects will achieve a reduction of GHG emissions through the installation of eligible technologies from “Inside the Fence” at New York State (NYS) Power Generation Facilities. Projects that have received funding under an existing NYSERDA program will not be eligible for additional funding under the Competitive Greenhouse Gas Reduction (CGGR) Program.

Examples of eligible technologies include, but are not limited to, the following:

- Advanced controls for overall plant
- Boiler controls
- Advanced burners
- Advanced turbine retrofits
- Waste heat recovery
- Plant parasitic load reduction and efficiency improvement

Maximum NYSERDA funding is \$13,500,000. This RFP does not include a per project funding limit. Cost share of at least 50% of the total project cost is required. All cost share must be from private and not public sources. A portion of the NYSERDA funding will be in the form of performance payments for measurable and verifiable reductions in GHG emissions over a specified performance period. Proposed projects will be evaluated against a set of criteria which will include the amount of funding requested per ton of GHG emission reduction, expected level of GHG emission reduction, and the technical merit and replication of the project across the power plant fleet in NYS.

Funding: One solicitation round is scheduled and total available funding is \$13,500,000. All or none of these funds may be awarded.

NOTE: CAPITALIZED TERMS APPEARING IN THIS RFP ARE DEFINED IN SECTION VIII (DEFINITIONS). BIDDERS SHOULD REFER TO SECTION VII WHEN READING THIS DOCUMENT. BIDDERS SHOULD READ THIS RFP,

INCLUDING THE DEFINITIONS AND ATTACHMENTS, IN ITS ENTIRETY BEFORE SUBMITTING A BID PROPOSAL.

Bid Proposal Submission: Bidders must submit one (1) print copy and one (1) electronic media copy (CD) of the bid proposal in Microsoft Word format (appendices may be in PDF format) with a completed and signed Application Package Checklist attached to the front of each copy, one of which must contain an original signature. **Bid proposals must be received by NYSERDA by 5:00 PM on March 31, 2016.** Bid proposals must be clearly labeled and submitted to:

**Roseanne Viscusi, RFP 3172
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399**

If you have technical questions concerning this solicitation, please contact John Love, Sr. Project Manager, at (518) 862-1090 ext. 3317 or by email at john.love@nyserda.ny.gov

If you have contractual questions concerning this solicitation, contact Nancy Marucci at (518) 862-1090, ext. 3335 or nancy.marucci@nyserda.ny.gov

Late bid proposals and bid proposals lacking the appropriate completed and signed Application Package Checklist will be returned. It is the Bidder's responsibility to ensure that all pages have been included in the bid proposal. Faxed or e-mailed bid proposals will not be accepted. Bid proposals will not be accepted at any other NYSERDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSERDA's web site at www.nyserda.ny.gov.

No communication intended to influence this procurement is permitted except by contacting one of the designated contacts listed above. Contacting anyone other than the designated contacts (either directly by the Bidder or indirectly through a lobbyist or other person acting on the Bidder's behalf) in an attempt to influence the procurement: (1) may result in a Bidder being deemed a non-responsible offerer, and (2) may result in the Bidder not being awarded a contract.

Table of Contents

I.	INTRODUCTION	4
II.	GENERAL INFORMATION	6
III.	ELIGIBLE TECHNOLOGIES.....	6
IV.	PREPARING A BID PROPOSAL	7
V.	BID PROPOSAL EVALUATION	11
VI.	BID UNIT COMMISSIONING, CONTRACT DURATION, BID UNIT COMMISSIONING MILESTONE DATE.....	13
VII.	PAYMENT.....	13
VIII.	DEFINITIONS	16
IX.	GENERAL CONDITIONS	20
X.	ATTACHMENTS	22

I. INTRODUCTION

This program was approved as part of New York's Regional Greenhouse Gas Initiative (RGGI) Operating Plan, (available at <http://www.nyserdera.ny.gov/Energy-and-the-Environment/Regional-Greenhouse-Gas-Initiative/Useful-Documents.aspx>), and is funded through RGGI proceeds generated by the sale of CO₂ allowances. New York's RGGI Operating Plan includes funding for a new initiative aimed at reducing greenhouse gas emissions from the power sector in New York. These funds are being used to implement this Competitive Greenhouse Gas Reduction (CGGR) program.

RGGI Background

RGGI is a cooperative effort by several Northeast and Mid-Atlantic states. RGGI is the first mandatory, market-based effort to limit greenhouse gas emissions in the United States. Currently, the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont are members of RGGI. These nine states have capped CO₂ emissions from the power sector within their states and have also required a 10% reduction in these emissions by 2018.

Each RGGI state has an individual CO₂ Budget Trading Program. These programs are implemented through state regulations and/or legislation, but are regionally linked through CO₂ allowance reciprocity, meaning an allowance issued by any participating state will be recognized by the other participating states. Due to this reciprocity, the RGGI states comprise a single regional carbon allowance market. The RGGI participating states have each chosen to auction nearly all CO₂ allowances and to invest the proceeds in consumer benefit programs to build a clean energy economy. These investments reduce greenhouse gas emissions and generate important consumer benefits, including lower energy bills, greater electric system reliability, and more jobs.

Pursuant to rules and regulations promulgated by NYSERDA and the NYS Department of Environmental Conservation (DEC), NYSERDA is responsible for administering periodic auctions for the sale of the emissions allowances. The proceeds from the sales of these allowances are used by NYSERDA to administer energy efficiency, renewable energy, and/or innovative carbon abatement programs, and to cover the costs to administer such programs.

NYSERDA, working with the DEC and the RGGI Advisory Group, has developed an "Operating Plan" for investing auction proceeds in consumer benefit programs. NYS invests RGGI proceeds to support comprehensive strategies that best achieve the RGGI CO₂ emission reduction goals, which reduce global climate change and pollution through energy efficiency, renewable energy, and carbon abatement technology. Investments will be focused on a complementary mix of electricity related GHG reduction opportunities and technologies and strategies for reductions related to the use of petroleum and natural gas.

Deploying commercially available renewable energy and energy efficiency technologies helps to reduce GHG emissions in the short term. To move the State toward a more sustainable future, RGGI works to empower communities to make decisions about energy usage that lead to lower carbon emissions as well as economic and societal co-benefits. RGGI helps to build capacity for long-term carbon reduction by training workers and partnering with industry. Using innovative financing, RGGI supports the pursuit of cleaner, more efficient energy systems and encourages investment to stimulate entrepreneurial growth of clean-energy companies. All of these activities use funds in ways that accelerate the uptake of low-emitting technologies. RGGI funds will also be used to induce additional GHG reductions by establishing the commitments and capacity to curtail GHGs by municipal, institutional, and other public and private sector participants.

Additional information regarding RGGI and the New York RGGI Plan can be obtained at the following Websites:

<http://www.rggi.org/rggi>

<http://www.nyscrda.ny.gov/Energy-and-the-Environment/Regional-Greenhouse-Gas-Initiative.aspx>

CGGR Objective

The objective of the CGGR is to provide financial assistance to power sector owners/operators (electric generating facilities) for a variety of projects that result in the reduction of GHG emissions consistent with the goals of RGGI.

Program objectives include:

- Allow participants to compete for funding to support GHG reduction projects primarily on a cost-per-Short Ton of CO₂ equivalent (CO₂e) basis;
- Promote investment in technologies and/or practices that result in GHG reductions that exceed those expected through compliance with the CO₂ Budget Trading Program (6 NYCRR Part 242);
- Reduce the costs of achieving CO₂ reduction across the power plant fleet in NYS through technology transfer/replication; and
- Produce additional benefits including job creation, leveraged private capital investment to promote economic development, and environmental benefits.

Through this solicitation, NYSERDA seeks to support projects that:

- Obtain GHG (CO₂e) emissions reductions for the lowest cost (above and beyond those expected through compliance with any existing regulation);
- Are not eligible for funding under other NYSERDA programs;
- Improve overall electricity generation efficiency;
- Provide long-term GHG emissions rate reductions;
- Will produce measurable and verifiable results;
- Reduce emission rates of criteria air pollutants (i.e., PM, NO_x, SO_x, UHCs, VOCs, HAPs).

II. GENERAL INFORMATION

Up to \$13,500,000 of NYSERDA funding is available, per demonstration project, with a Bidder cost share at or above 50% of the total project cost. All cost share must be from private and not public sources. Bid proposals should clearly identify how the project may lead to increased deployment of the technology in New York State. Projects that are required by local, state or federal laws or projects that have been financed, initiated or completed prior to the announcement of this RFP are not eligible for funding.

Projects selected for funding must:

- Utilize eligible technologies (See Section III) that effectively reduce GHG emissions from the power generation facility;
- Provide direct and quantifiable GHG emission reduction benefits to NYS upon successful project implementation. Additional benefits could include criteria air pollutant emissions reductions, increased reliability, high fuel-use efficiency, and reduced power costs. Since this solicitation is funded by RGGI, projects may occur statewide and are not restricted to the service territories of the State's investor-owned utilities;
- Demonstrate that the Bidder and/or team of Bidders are well-qualified to carry out the submitted project proposal;
- Clearly identify how this demonstration may lead to increased use of the technology in NYS;
- Comply with emissions monitoring and reporting requirements for applicable units in accordance with 6 NYCRR Part 242. Applicable power sector projects include those involving units that serve as an electricity generator with a Nameplate Capacity equal to or greater than 25 MWe;
- Demonstrate that the power generation facility and affected equipment have a minimum of 10 years of operating life remaining;
- Be installed "Inside the Fence" at an existing NYS power generating facility.

In addition, note that any modification to a Power Generation Facility that may be subject to New Source Review (NSR)/Prevention of Significant Deterioration (PSD) under 6 NYCRR Part 231 is the responsibility of the Bidder.

III. ELIGIBLE TECHNOLOGIES

Eligible technologies under this RFP include commercially available technologies with proven efficiency and GHG reduction performance as well as new/underutilized/innovative technologies which have a high probability of meeting efficiency and GHG reduction objectives. Regardless of the technology deployed, the Bidder will be evaluated and ultimately receive a portion of funding through Performance Payments based on the technology's ability to meet the proposed emissions reduction.

Eligible technologies include, but are not limited to:

- Installation of advanced controls for overall plant such as an advanced neural network;
- Boiler controls;
- Advanced boiler burners and duct burners;
- Advanced turbine (gas or steam) conversions and modifications;
- Waste heat recovery; or
- Plant parasitic load reduction and efficiency improvements.

IV. PREPARING A BID PROPOSAL

Bidders may submit multiple competitive bids for demonstration of Eligible Technologies. Each bid must be submitted as a separate bid proposal.

Maximum NYSERDA Incentive - The Maximum NYSERDA Incentive that may be requested per bid proposal is \$13,500,000. Multiple bid proposals from a single Bidder are acceptable and there is no limit on the total funding requested by each Bidder, however, no more than \$13,500,000 million will be awarded per Bid Unit or per Bid Facility. A Bidder that operates multiple Power Generation Facilities can submit bid proposals on behalf of each Bid Facility.

Bidders must submit one (1) print copy and one (1) electronic media copy (CD) of the bid proposal in ***Microsoft Word format*** (appendices may be in PDF format) with a completed and signed Application Package Checklist (Attachment A). The print copy must contain an original signature. Bid proposals must be clearly labeled and submitted to Roseanne Viscusi at the address on the front of this Request for Proposal. **Late bid proposals and bid proposals lacking the appropriate completed and signed Application Package Checklist will be returned.** Faxed or e-mailed copies will not be accepted.

It is very important to review the proprietary information guidelines in Section IX. General Conditions.

To the extent it is necessary to include proprietary information in the bid proposal, be sure to follow the instructions in Section IX and clearly indicate so on the Application Package Checklist (Attachment A) as well as on each page that contains specific proprietary information throughout the bid proposal.

Total length of the bid proposal, excluding appendices and resumes, may not exceed 15 pages. A page is considered to be one side of an 8-1/2" x 11" piece of paper. The font size shall not be smaller than 11 point. Bid proposals should not be submitted in an elaborate format that includes expensive binders or graphics - double-sided prints with a staple in the upper left corner is the preferred format. Unnecessary appendices beyond those sufficient to present a complete, comprehensive, and effective response will not influence the evaluation of the bid proposal. Each page of the bid proposal should state the name of the Bidder, the RFP number, and the page number.

The Bid Proposal must include the following content and must be in the format and sequence listed below:

1. **Application Package Checklist (Attachment A)** – The Application Package Checklist is mandatory and must be completely populated, signed and attached to the front of the bid proposal. The submitted hardcopy must have an original signature.

Please note the following:

Indicate whether you accept the standard terms and conditions as contained in the attached Standard Form Contract (Attachment E). Bidders are strongly encouraged to review these terms and conditions with their attorney prior to submitting a bid proposal. If you do not accept the standard terms and conditions, provide alternate terms with justification based on the risk and benefit to NYSERDA and New York State. NYSERDA reserves the right to limit any negotiations to exceptions to standard terms and conditions in the Standard Form Contract (Attachment E) to those specifically identified in the submitted bid proposal (see Application Package Checklist attached as Attachment A). Due to NYSERDA's desire to have projects underway as quickly as possible, contract negotiations that have significant unresolved exceptions to NYSERDA's standard terms and conditions may be terminated if these issues are not resolved in a reasonable amount of time, as determined by NYSERDA.

Be sure the individual who is signing the Application Package Checklist is authorized to commit the Bidder's organization to the bid proposal as submitted.

Procurement Lobbying Requirements - Procurement lobbying requirements contained in State Finance Law § 139-j and §139-k became effective on January 1, 2006. (The text of the laws are available at:

<http://www.ogs.ny.gov/aboutogs/regulations/advisoryCouncil/StatutoryReferences.html>).

In compliance with §139-j and §139-k of the State Finance Law, for bid proposals submitted in response to this solicitation that could result in agreements with an annual estimated value in excess of \$15,000, additional forms must be completed and filed with bid proposals: (1) a signed copy of the Application Package Checklist (Attachment A) including required certifications under the State Finance Law and (2) a completed Disclosure of Prior Findings of Non-Responsibility (Attachment B). Failure to include a signed copy of the Application Package Checklist referenced in this solicitation will disqualify your bid proposal.

2. **Disclosure of Prior Findings of Non-Responsibility (Attachment B)**
3. **Introduction** – Identify the Bidder, background information, and the proposed approach to reducing GHG emissions. Each Bidder must **fully** address the following: Provide a profile of the Bidder's company and its parent company, if any. Describe the relationship between the Bidder and the owner(s) of the Power Generation Facility and Bid Unit. Provide the Bid Unit's location (State, address, county and town) including a State and/or county map with the Bid Unit's geographic location marked.

If the Bidder is not the owner of the Power Generation Facility or Bid Unit, you must include written confirmation from the owner clearly committing its support to the project, and to any Bid Unit Modification.

4. **Project Team** – This section should identify all staff members, contractors and subcontractors that are to be involved in project implementation. The bid proposal must identify the project team member who will be responsible for the preparation and delivery of periodic written project progress reports. A brief description of qualifications should be presented here, with supporting information supplied in an appendix.
5. **Bid Unit** – Provide a description of the Bid Unit including power generation technology, fuel supply type, Nameplate Capacity (Note: The Bid Unit could be a single power generation system to which an eligible technology is applied, or the Bid Unit could be a power generation facility that houses multiple power generation systems when the eligible technology is a facility-wide application). Provide a description of the operational history of the Bid Unit including, but not limited to:
 - A description of the power generation facility where the Bid Unit is located
 - A description of existing Bid Unit and major associated equipment with manufacturer, make, model, rating and age of equipment
 - A description of Bid Unit operations: operational hours, capacity factor, operation mode (base load, peaking, etc), ratio of fuel usage for dual fuel applications (i.e. NG/oil)
6. **Bid Unit Modification** – Thoroughly describe the proposed modifications/improvements to equipment and systems that are expected to result in Expected Annual Emissions Reduction. Such description shall include, but not be limited to:
 - A description of the equipment (hardware, software) to be converted, replaced, or modified and the eligible technologies to be utilized
 - A detailed description of projected change in operating conditions after the Bid Unit Modification is complete
7. **GHG Emission Reduction Calculations** – Provide and fully describe the calculated GHG emissions anticipated to be reduced as a result of the Bid Unit Modification. Calculations must adhere to the requirements described below:

All GHG emissions will be expressed on a “CO₂ Equivalent” (CO₂e) basis. CO₂e is determined by applying the correct equivalence factor for each GHG. For example, a reduction of 1 ton of CH₄ (methane) is the global warming equivalent of reducing 21 tons of CO₂, and so is expressed as 21 tons of CO₂e. When calculating CO₂e, Bidders shall use the Global Warming Potentials published by the Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report, the Physical Science Basis (Working Group I), chapter 2, pages 212 and 213, 2007 <https://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter2.pdf>

Historical Performance Data and Baseline Emissions – The Bid Proposal must include two years of consecutive emissions data within the five year period from 01/01/11 to

12/31/15 to serve as the baseline GHG emissions per MWh at the Bid Unit. Historical Bid Unit measured electric generation and baseline emissions data is required in the bid proposal in order to provide credible baseline data on electrical system and emission performance before the implementation of the proposed Bid Unit Modification. Historical Bid Unit data will include information concerning fuel, operating hours, MW generated, total emissions, emissions per MWh, and any other information required to fully characterize the operation of the Bid Unit prior to any modification/improvements. This section should include background calculations resulting in and documenting values for Baseline GHG Emission Rate and Baseline Annual Emissions as defined in Section VII.

Expected Annual Emission Reduction – To establish net additional GHG reductions to be offered for payment under this program, the Bid Proposal must compare the Baseline GHG Emission Rate and Baseline GHG Annual Emissions with the Expected Annual Emission Rate and Expected Annual Emission Reduction which are expected to result from the proposed Bid Unit Modification. Expected Bid Unit electric generation and expected emissions data is required in the bid proposal in order to provide credible calculations on electrical system and emission performance after the implementation of the proposed Bid Unit Modification. Expected Bid Unit data will include information concerning fuel, operating hours, MW generated, total annual emissions in tons, emissions per MWh, and any other information required to fully characterize the operation of the Bid Unit after any modification/improvements. This section should include background calculations resulting in and documenting values for Expected Annual Emission Rate and Expected Annual Emission Reduction as defined in Section VII. Describe the expected duration of the GHG reduction (permanent, degrade at x%/yr, etc.) and provide a description of the Bidder's level of confidence that the emissions reductions will be maintained for that duration.

8. **Measurement and Verification** – All Bidders must provide measurement and verification through Continuous Emissions Monitoring System (CEMS) data or use of equivalent measurement protocols in accordance with 6 NYCRR Part 242 for baseline and annual reporting of emissions on a CO₂e basis and verification of the Baseline Annual Emissions and Actual Annual Emissions. This section should demonstrate that the facility has the capability to provide accurate data collection and recording of emissions both prior to and after project installation. Bidder must demonstrate an ability to provide at least the following:
 - Historical baseline emissions data for a consecutive two years within the five-year period immediately prior to December 31, 2015 to verify Baseline Annual Emissions.
 - Post-installation GHG emissions reported on a quarterly basis as part of the required quarterly progress reports over the three-year Performance Period to verify Actual Annual Emissions.
 - Annual emissions reports submitted as justification for achieving quoted GHG emission reduction for each year of the three-year Performance Period to verify Actual Annual Emissions.

9. **Other Project Benefits** – If the Bid Unit Modification will achieve other non-emission reduction benefits, they should be described in this section. Benefits could include: increased generation, improved facility reliability, worker health and safety, job retention or creation, water savings, etc.
10. **Budget** – Present a detailed total project budget that fully documents all equipment and labor costs of implementing the proposed Bid Unit Modification. Include and apportion all costs associated with outside contractors and sub-contractors. Identify major capital items in a supporting schedule.
11. **Replicability** – Provide information that allows the evaluation of the likelihood of the proposed project to stimulate replication should the proposed project meet its GHG reduction objectives. Describe the potential for application of the demonstrated technology at other sites, and how this project will facilitate future use of the technology in New York State.
12. **Qualifications (Appendix)** – Include any resumes, company qualifications, or ancillary information that is deemed necessary to support your bid proposal.
13. **Project Schedule Form (Attachment C to this RFP)**
14. **Bid Price Form (Attachment D to this RFP)** – Bidders will be responsible for submitting one (1) fully completed and signed Bid Price Form with each Bid Proposal. Be sure the individual who is signing the Bid Price Form is authorized to commit the Bidder’s organization to the bid proposal as submitted. The Bid Price should only be disclosed on the Bid Price Form Attachment D. Do not include the Bid Price in the Bid Proposal.

THE BID PRICE FORM MUST BE SUBMITTED IN A SEPARATE SEALED ENVELOPE MARKED “RFP 3172 BID PRICE FORM” CLEARLY IDENTIFYING THE BIDDER, THE BID UNIT AND THE BID FACILITY.

V. BID PROPOSAL EVALUATION

NYSERDA will employ a scoring system comprised of two evaluation components totaling 100 points:

- Technical Project Evaluation: (40 pts)
- Bid Price Evaluation: (60 pts)

Technical Project Evaluation – Bid Proposals that meet the bid proposal requirements listed above will be reviewed by a Technical Evaluation Panel (TEP) consisting of NYSERDA staff, a Department of Public Service staff member, a Department of Environmental Conservation staff member, and selected outside reviewers. The TEP will first review the written bid proposals in a Technical Project Evaluation, score and rank the bid proposals.

In performing the technical evaluation of the proposed projects, NYSERDA will consider (listed in order of importance from the highest weighted category to the lowest weighted category):

1. Assurance that the proposed project will obtain verifiable long-term emissions reductions
2. Replicability potential of the project at other NYS power generation facilities
3. Technology to be implemented (new, proven, advanced, underutilized, etc.)
4. Budget detail and reasonableness
5. Project schedule/readiness
6. The qualifications of the proposed project management and project team
7. The completeness of the bid proposal
8. Additional project benefits such as increased generation, worker health and safety, job retention or creation, water savings, criteria air pollutant emission rate savings (i.e., PM, NO_x, SO_x, UHCs, VOCs, HAPs), etc.

A maximum of 40 points will be awarded for the Technical Project Evaluation. Scoring on the Technical Project Evaluation will be conducted independently (without knowledge of bid prices) prior to the Bid Price Evaluation.

Bid Price Evaluation – Bids will be sorted in ascending order by Bid Price per short ton CO_{2e} avoided per year. A maximum of 60 points will be awarded during the Bid Price Evaluation. The lowest Bid Price will receive the maximum points available for the Bid Price component (60 points).

Points awarded for Bid Prices will be allocated in proportion to where the Bid Price falls within the range from lowest Bid Price to the highest Bid Price.

Award Selection – A final ranking of bid proposals will be developed based on the sum of points awarded for Bid Price and points awarded on the basis of the Technical Project Evaluation. Selection will be based on this final ranking subject to NYSERDA's available funds.

IT IS IMPORTANT TO THE CGGR PROGRAM THAT THE PROPOSED PROJECT OBTAIN LONG-TERM EMISSIONS REDUCTIONS. NYSERDA MAY REQUIRE THE PROPOSER TO DEMONSTRATE THE LONG-TERM FINANCIAL VIABILITY OF THE GENERATION FACILITY AND TO COOPERATE WITH NYSERDA IN ITS EFFORTS TO DETERMINE THE LONG TERM VALUE OF A CGGR PROGRAM INVESTMENT.

NYSERDA RESERVES THE RIGHT TO REJECT OR ACCEPT ANY OR ALL BIDS. NYSERDA ALSO RESERVES THE RIGHT TO SOLICIT REVISED BID PRICES AND/OR TO MAKE COUNTEROFFERS AS IT DEEMS APPROPRIATE.

Upon notification of an award, NYSERDA will prepare a Standard Form Contract (Attachment E) which will be delivered to Bidder, in a manner to be agreed upon, for Bidder's execution and return. If needed, the Bidder will be given a 3 month period from notification of award to evaluate impact of award on schedule and budget planning for future power plant maintenance outages. During this time, the Bidder shall have the opportunity to revise the project schedule as submitted in Attachment C – Project Schedule Form. No reasonable requests shall be denied but in no case shall the Bid Unit Commissioning date exceed December 31, 2017. NYSERDA may withdraw and rescind awards to Bidders who fail to execute the Standard Form Contract within a reasonable amount of time.

VI. BID UNIT COMMISSIONING, CONTRACT DURATION, BID UNIT COMMISSIONING MILESTONE DATE

The Bidder is expected to install the GHG reduction project by the Bid Unit Commissioning Milestone Date. Bidder must promptly notify NYSERDA's Project Manager of the date upon which the Modified Bid Unit is operational so Bid Unit Commissioning can be completed. Bid Unit Commissioning is executed by the NYSERDA Project Manager and will entail site visits to witness project progress and hardware/software installation. The NYSERDA Project Manager will confirm that the Bid Unit Modification has entered service and was completed in the manner proposed to NYSERDA.

Once Bid Unit Commissioning is complete, the Contract Delivery Term will commence and NYSERDA will make payments for Actual Annual Emissions Reductions based on annual invoicing, for the three year Performance Period commencing with the first full quarter following Bid Unit Commissioning to align with the quarterly DEC CEM report. The Contract Delivery Term shall commence no later than the date of Bid Unit Commissioning.

VII. PAYMENT

The payment process is designed to encourage the installation of high performing systems. If awarded a contract, payments for each installation will consist of a combination of one (1) Up-Front Payment and three (3) Performance Payments.

Up-Front Payment – The first payment will be made after installation of the Bid Unit Modification and completed Bid Unit Commissioning as witnessed by the NYSERDA Project Manager. This payment will be 40% of the Total Expected Project Payment and is payable upon acceptance by NYSERDA of the Bid Unit Commissioning Report.

Performance Payments – Once Bid Unit Commissioning is complete, the Contract Delivery Term will commence starting with the first full quarter following Bid Unit Commissioning to align with the quarterly DEC CEM report. NYSERDA will make

payments for Actual Annual Emissions Reductions based on annual invoicing, for each of the three (3) consecutive years during the Contract Delivery Term “Performance Period.” Performance Payments will be made in accordance with the performance payment and adjustment methodology detailed below and in accordance with NYSERDA’s Prompt Payment Policy (Exhibit C to Attachment E to this RFP).

Baseline Performance - Specified at Bid on Attachment D, Bid Price Form:

1. Baseline Average Annual Emissions (tons CO₂e) (average annual emissions for any consecutive two years within the five-year period immediately prior to December 31, 2015)
Ex. 900,000 tons CO₂e
2. Baseline Average Annual Generation (MWh) (average annual generation for corresponding 2 year period selected in 1. above)
Ex. 2,475,000 MWh
3. Baseline Emissions Rate (tons CO₂e/MWh) = Baseline Average Annual Emissions (tons CO₂e) / Baseline Average Annual Generation (MWh)
Ex. (900,000 tons CO₂e) / (2,475,000 MWh) = .3636 tons CO₂e / MWh
4. Bid Price (\$/ton CO₂e) = \$ to be paid per ton CO₂e actually reduced
Ex. \$15 / ton CO₂e
5. Expected Annual Emissions Rate (tons CO₂e/MWh) after Bid Unit Modification is complete
Ex. Neural network control optimization project to yield 4% CO₂ reduction
(.96) x (.3636 tons CO₂e / MWh) = .3491 tons CO₂e / MWh
6. Expected Annual Emission Reduction (tons CO₂e) = Baseline Average Annual Emissions (tons CO₂e) – (Baseline Average Annual Generation (MWh) x Expected Annual Emissions Rate (tons CO₂e/MWh))
Ex. 900,000 tons CO₂e – ((2,475,000 MWh) x (.3491 tons CO₂e / MWh)) = 35,978 tons CO₂e
7. Total Expected Project Payment (\$) = Bid Price x Expected Annual Emissions Reduction x 3 years. If greater than \$13.5 million, this will equal \$13.5 million.
Ex. (\$15 / ton CO₂e) x (35,978 tons CO₂e) x 3 years = \$1,619,010

For Payment:

1. Up-front Payment #1 = 40% x Total Expected Project Payment (upon Bid Unit Commissioning)

Performance Payments Methodology (Calculations to be made for each Contract Year during the Performance Period):

2. Actual Annual Emissions (tons CO₂e) (for the Contract Year)
Ex. 890,000 tons CO₂e

3. Actual Annual Generation (MWh) (for the corresponding Contract Year)
Ex. 2,530,000 MWh
4. Actual Annual Emissions Rate (tons CO₂e/MWh) = Actual Annual Emissions (tons CO₂e) / Actual Annual Generation (MWh)
Ex. (890,000 tons CO₂e) / (2,530,000 MWh) = .3518 tons CO₂e / MWh
5. % Improvement in Emissions Rate Reduction Post Modification. Compare the reduction in Actual Annual Emissions Rate to the reduction in the Expected Annual Emission Rate. % Improvement = 100 x (Baseline Emissions Rate (tons CO₂e/MWh) - Actual Emissions Rate (tons CO₂e/MWh)) / (Baseline Emissions Rate (tons CO₂e/MWh) - Expected Annual Emission Rate (tons CO₂e/MWh))
Ex. 100 x (.3636 - .3518 (tons CO₂e/MWh) / .3636 - .3491 (tons CO₂e/MWh)) = 81.38%
6. Adjusted Baseline Emissions = Actual Annual Generation x Baseline Emissions Rate
Ex. (2,530,000 MWh) x (.3636 tons CO₂e / MWh) = 919,908 tons CO₂e
7. Calculated Emissions Reduction = Adjusted Baseline Emissions – Actual Annual Emissions
Ex. 919,908 tons CO₂e - 890,000 tons CO₂e = 29,908 tons CO₂e
8. Performance Payment:
 - a. Maximum Annual Performance Payment = 20% x Total Expected Project Payment
Ex. (.20) x (\$1,619,010) = \$323,802; therefore the maximum performance payment for any Contract Year = \$323,802
 - b. If calculated % Improvement in Emissions Rate Reduction Post Modification is \geq 80%, then performance payment is = Bid Price x Calculated Emissions Reduction or 25% x Total Expected Project Payment, whichever is less.
Ex. % Improvement in Emissions Rate Reduction Post Modification = 81.38%, therefore the calculated payment for Year 1 = (\$15) x (29,908) = \$448,620
 - c. \$448,620 > \$323,802; therefore Performance Payment = \$323,802

Adjustment:

1. For any Contract Year where the % Improvement in Emissions Rate Reduction Post Modification is not \geq 80%, an Adjustment Factor will be used to adjust the Performance Payment down. The Performance Payment will be calculated using the formula: Performance Payment = (Adjustment Factor) x (Bid Price) x (Calculated Emission Reduction) or (Adjustment Factor) (20% x Total Expected Project Payment), whichever is less. The Adjustment Factor is defined in the table below:

Adjustment Factor	% Improvement in Emissions Rate Reduction Post Modification
-------------------	---

1.0	≥ 80%
0.75	≥ 70% and < 80%
0.5	≥ 60% and < 70%
0.25	≥ 50% and < 60%
0.0	< 50%

- Example 1: If the % Improvement in Emissions Rate Reduction Post Modification is 70%, then the Performance Payment = (0.75) x (Bid Price) x (Calculated Emissions Reduction) or (0.75) (20% x Total Expected Project Payment), whichever is less.
 - Example 2: If the % Improvement in Emissions Rate Reduction Post Modification is 48%, then the Performance Payment = (0.0) x (Bid Price) x (Calculated Emissions Reduction); no payment.
2. In no instance will NYSERDA pay for Actual GHG emissions rates that exceed the Baseline Emissions Rate.

Emission Rate Verification – The Actual Annual Emission Rate of the Modified Bid Unit must be capable of accurate and verifiable measurement as reported to the DEC in order to receive Performance Payments. The contractor must submit annually, for the Performance Period, measured plant emissions data. Annual reports must summarize the performance of the Bid Unit Modification for the preceding Contract Year. Plant performance data provided in the reports must include historical baseline emissions data as well as actual emissions from the CEMS recorder or equivalent measurement protocol (under 6 NYCRR Part 242) post Bid Unit Modification. The Bidder must submit an annual report to NYSERDA within 30 days of the conclusion of each Contract Year.

Maximum Payment – NYSERDA will not make payment for more than the Maximum NYSERDA Incentive over the Performance Period.

VIII. DEFINITIONS

Actual Annual Emissions (tons CO₂e): The annual measured emissions at the Bid Unit during the Performance Period as measured and verified through Continuous Emissions Monitoring System (CEMS) data or use of equivalent measurement protocols under 6 NYCRR Part 242. Any conversion of greenhouse gas to CO₂e shall use the Global Warming Potentials published by the Intergovernmental Panel on Climate Change, Fourth Assessment Report, the Physical Science Basis (Working Group I), chapter 2, pages 212 and 213, 2007. <https://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter2.pdf>

Actual Annual Generation (MWh): Actual measured generation in MWh by the Bid Unit in a given Contract Year.

Actual Emissions Rate (tons CO₂e / MWh): Calculated by dividing Actual Annual Emissions by Actual Annual Generation for the same Performance Period.

Adjusted Baseline Emissions (tons CO₂e): A calculation of the Bid Unit's baseline emissions prior to the modification corrected for the Actual Annual Generation in a given Contract Year. Calculated by multiplying the Actual Annual Generation by the Baseline Emissions Rate.

Application Package: The bid proposal and all associated material submitted by the Bidder for competitive review.

Application Package Checklist: Checklist required as the first page of the bid proposal.

Baseline Average Annual Emissions (tons CO₂e): The average annual measured emissions at the Bid Unit for any consecutive two years within the five-year period immediately prior to December 31, 2015.

Baseline Average Annual Generation (MWh): The average annual measured electric generation at the Bid Unit for the corresponding two-year period used to calculate the Baseline Average Annual Emissions.

Baseline Emissions Rate (tons CO₂e / MWh): The average measured emissions per MWh of electrical energy produced at the Bid Unit(s) for any consecutive two years within the five-year period immediately prior to December 31, 2015. Calculated by dividing Baseline Average Annual Emissions by the Baseline Average Annual Generation.

Bid Facility: The electric generation station where the Bid Unit is located.

Bid Price: A single fixed production payment, expressed in \$/short ton CO₂e reduced as expected due to the proposed technology demonstration and offered as performance throughout the Contract Delivery Term.

Bid Unit: The single power generation system or Bid Facility affected by the technology demonstration.

Bid Unit Modification: The technology proposed to demonstrate a reduction of CO₂e emissions from the power generation system.

Bid Unit Commissioning: A process executed by the NYSERDA Project Manager wherein confirmation is obtained by NYSERDA that the Bid Unit Modification has entered service and was completed in the manner proposed to NYSERDA. Bid Unit Commissioning is executed by the NYSERDA Project Manager and will entail site visits to witness project progress and hardware/software installation. The NYSERDA Project Manager will confirm that the Bid Unit Modification has entered service and was completed in the manner proposed to NYSERDA.

Bid Unit Commissioning Milestone Date: The date by which Bid Unit Commissioning is to be achieved. This date shall be no later than December 31, 2017.

Bidder: An entity submitting a bid proposal in response to this RFP. Such entity must be the owner of the Bid Unit or an individual with authorization to commit the Bid Unit's organization to the proposal as submitted.

Calculated Emissions Reduction (tons CO₂e): The calculated improvement in GHG emissions at the Bid Unit as a result of the modification. Calculated by subtracting the Actual Annual Emissions for a given Contract Year from the Adjusted Baseline Emissions.

CO₂ equivalent (CO₂e): The tons of a given greenhouse gas multiplied by its global warming potential (GWP).

Contract Delivery Term: The Contract Delivery Term will commence on the first day of the month after the first full quarter following Bid Unit Commissioning.

Contract Year: A 12-month period commencing with the beginning of the Contract Delivery Term and each anniversary thereof within the Performance Period.

Effective Date: The date appearing in the first paragraph of the executed Agreement.

Eligible Technologies: Commercially available technologies with proven efficiency and GHG reduction performance as well as underutilized/innovative technologies which have a high probability of meeting efficiency and GHG reduction objectives.

Expected Annual Emission Rate (tons CO₂e / MWh): The reduction in the rate of GHG emissions at the Bid Unit expected to result from the Bid Unit Modification.

Expected Annual Emission Reduction (tons CO₂e): The difference between the Baseline Average Annual Emissions and the multiplicative product of the Baseline Average Annual Generation and the Expected Annual Emissions Rate.

Global Warming Potential: A measure of the radiative efficiency (heat-absorbing ability) of a particular gas relative to that of carbon dioxide (CO₂) after taking into account the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO₂. Global warming potentials used in this Part are consistent with the values used in the Intergovernmental Panel on Climate Change, Fourth Assessment Report, the Physical Science Basis (Working Group I), chapter 2, pages 212 and 213, 2007. <https://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter2.pdf>

GHG: Greenhouse Gas

Greenhouse Gas Emissions: Gases that trap heat in the atmosphere and include carbon dioxide, methane, nitrous oxide and fluorinated gases

Inside the Fence: The Bid Unit Modification is limited to deployment within the immediate property of the single power generation facility (Bid Facility).

Maximum NYSERDA Incentive: For any given project awarded under this RFP, NYSERDA will fund at a total level up to \$13,500,000.

Maximum Annual Performance Payment: The maximum performance payment that NYSERDA will pay for any Contract Year and is equal to 20% x Total Expected Project Payment.

Modified Bid Unit: The Bid Unit after installation of the Bid Unit Modification

Nameplate Capacity: The gross generating capacity of the Bid Unit, in MWe.

Performance Payment: A payment made by NYSERDA to the Bidder at an amount of up to 20% of the Total Expected Project Payment upon demonstration of meeting the Expected Annual Emission Reduction for any one of the three Contract Years.

Performance Period: A period of three (3) Contract Years commencing with the first full quarter following Bid Unit Commissioning to align with the quarterly DEC CEM report.

Power Generation Facility: A facility that generates electricity for transmission and distribution to satisfy electric load demand.

Project: The Bid Unit Modification

Regional Greenhouse Gas Initiative (RGGI): RGGI is a cooperative effort by several Northeast and Mid-Atlantic states. RGGI is the first mandatory, market-based effort to limit greenhouse gas emissions in the United States.

Short Ton: A unit of mass equal to 2,000 pounds.

Standard Form Contract: The standard contractual document to be entered into by NYSERDA and selected Bidders, which shall define, among other things, their rights and obligations concerning the reduction in emissions resulting from the Bid Unit Modification and the payments by NYSERDA during the term of the agreement.

Total Expected Project Payment: The maximum funding award allowable for the proposed GHG reduction project. It is the multiplicative product of the Bid Price, the Expected Annual Emissions Reduction, and the Performance Period of 3 years. This payment is not to exceed \$13,500,000.

Up-Front Payment: The first payment to be paid upon operation and completed commissioning of the Bid Unit Modification as witnessed by the NYSERDA Project Manager. This payment will be 40% of the Total Expected Project Payment.

IX. GENERAL CONDITIONS

PROPRIETARY INFORMATION

Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes. The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." Information submitted to NYSERDA that the Bidder wishes to have treated as proprietary and confidential trade secret information, should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to exempt it from disclosure, including a written statement of the reasons why the information should be exempted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 <http://nyserda.ny.gov/~media/Files/About/Contact/NYSERDARegulations.ashx> However, NYSERDA cannot guarantee the confidentiality of any information submitted.

OMNIBUS PROCUREMENT ACT OF 1992

It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of New York subcontractors and suppliers is available from:

Empire State Development
Division for Small Business
30 South Pearl Street
Albany, NY 12245

A directory of certified minority- and women-owned business enterprises is available from:

Empire State Development
Minority and Women's Business Development Division
30 South Pearl Street
Albany, NY 12245

State Finance Law sections 139-j and 139-k - NYSERDA is required to comply with State Finance Law sections 139-j and 139-k. These provisions contain procurement lobbying requirements which can be found at

<http://www.ogs.ny.gov/aboutogs/regulations/advisoryCouncil/StatutoryReferences.html>

The attached Application Package Checklist (Attachment A) calls for a signature certifying that the Bidder will comply with State Finance Law sections 139-j and 139-k and the Disclosure of Prior Findings of Non-responsibility form (Attachment B) includes a disclosure statement regarding whether the Bidder has been found non-responsible under section 139-j of the State Finance Law within the previous four years.

Tax Law Section 5-a -

NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA having a value in excess of \$100,000, to certify to the Department of Taxation and Finance (the "Department") whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect New York State and local sales and compensating use taxes. The Department has created a form to allow a prospective contractor to readily make such certification. *See*, ST-220-TD (available at http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf).

Prior to contracting with NYSERDA, the prospective contractor must also certify to NYSERDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a prospective contractor prior to contacting and filed with NYSERDA. *See*, ST-220-CA, available at:

http://www.tax.ny.gov/pdf/2006/fillin/st/st220ca_606_fill_in.pdf

The Department has developed guidance for contractors which is available at:

<http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf>

CONTRACT AWARD

NYSERDA anticipates making multiple awards under this solicitation. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations. Each offer should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Standard Form Contract (Attachment E) to contract successful proposals. NYSERDA expects to notify Bidders in approximately 8 weeks from the proposal due date whether your proposal has been selected to receive an award.

NYSERDA may decline to contract with awardees who are delinquent with respect to any obligation under any previous or active NYSERDA agreement.

LIMITATION

This solicitation does not commit NYSERDA to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NYSERDA's best interest. NYSERDA reserves the right to reject proposals based on the nature and number of any exceptions taken to the standard terms and conditions of the Standard Form Contract.

DISCLOSURE REQUIREMENT

The Bidder shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five years, under the laws of the United States or any state or territory of the United States, and shall describe circumstances for each. When a Bidder is an association, partnership, corporation, or other organization, this disclosure requirement includes the organization and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NYSERDA after the award of a contract, NYSERDA may exercise its stop-work right pending further investigation, or terminate the agreement; the contractor may be subject to penalties for violation of any law which may apply in the particular circumstances. Bidders must also disclose if they have ever been debarred or suspended by any agency of the U.S. Government or the New York State Department of Labor.

IX. ATTACHMENTS

Attachment A – Application Package Checklist

Attachment B – Disclosure of Prior Findings of Non-responsibility

Attachment C – Project Schedule Form

Attachment D – Bid Price Form

Attachment E – Standard Form Contract